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ABSTRACT

These proceedings provide easy access to presentations and discussions from Ohio's Invitational Conference held in Oxford, OH, September 4-6, 2002. In addition, the collection of summaries of addresses, papers, and discussions from each segment of the conference may provide others with background information and insights into topics addressed and discussed. (SOE)

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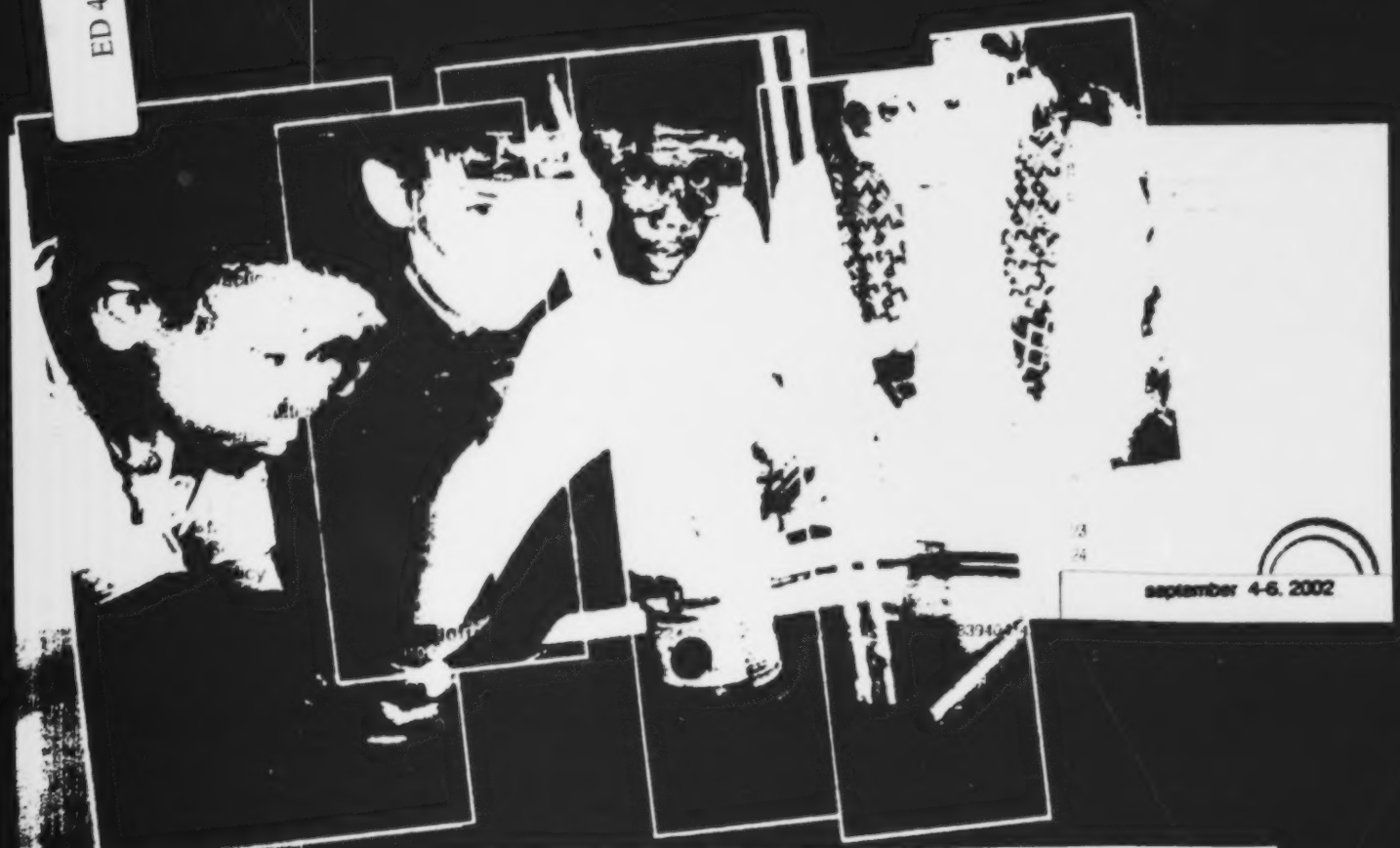

september 4-6, 2002

Proceeding of Ohio's Invitational Conference:

Narrowing Achievement Gaps

Sponsored by: The Joint Council of the Ohio Board of Regents and the Ohio Board of Education

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Proceeding of Ohio's Invitational Conference:

Narrowing Achievement Gaps

Edited by

Mary Kay Kelly

and

Iris DeLoach Johnson

Miami University

Sponsored by: The Joint Council of the Ohio Board of Regents and the Ohio Board of Education

september 4-6, 2002

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Disclaimer

Because no video or audio recordings were made of the conference, these proceedings were developed from the composite notes of the recorders and the reports herein are representations constructed from those notes.

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Milton D. Hakel	Professor and Ohio Eminent Scholar, Bowling Green State University
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Sylvester Small	Superintendent, Akron City School District
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Robert Tinker	President, The Concord Consortium
Nancy L. Zimpher	Chancellor, University of Wisconsin-Milwaukee

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Jon Tafel	Vice Chancellor, Ohio Board of Regents
Pamela Young	Associate Superintendent, Center for School Reform and Options, Ohio Department of Education

Table of Contents

Executive Summary 7

Jane Butler Kahle

Chapter One: Introduction 11

Mary Kay Kelly

Agenda 13

Meeting at a Glance 15

Chapter Two: Dinner Address: Ronald Ferguson 17

Mary Kay Kelly, Recorder's Summary

Chapter Three: Framing The Discussion 21

Mary Kay Kelly, Recorder's Summary 21

Patricia B. Campbell & Beatriz Chu Clewell, Presenter's Summary: Narrowing Ohio's Achievement Gap: Framing the Questions 33

Jaekyung Lee, Presenter's Summary: Racial and Ethnic Achievement Gap Trends 36

Chapter Four: State Level Initiatives 39

Terry McCollum, Recorder's Summary 39

Dwight Pearson, Presenter's Summary: Programs and Strategies to Close the Achievement Gap In North Carolina 48

Norman L. Webb, Presenter's Summary: The Complexity of the Ethnic Group Mathematics Achievement Gap 53

Chapter Five: Luncheon Presentation: Susan Fuhrman 57

Janelle Gohn, Recorder's Summary

Chapter Six: Local and District Level Initiatives 61

Iris DeLoach Johnson, Recorder's Summary

Chapter Seven: Cross-Cutting Issues 75

Carla Johnson, Recorder's Summary 75

Kathryn Scantlebury & Jane Butler Kahle, Presenter's Summary: Successful Strategies for Closing the Achievement Gap in Urban Schools 79

Chapter Eight: Next Steps 83

Mary Kay Kelly, Recorder's Summary 83

Steve Meiring, Facilitator's Summary: Framing the Discussion 88

Appendices 91

Bibliography 91

Conference Participants 93

EXECUTIVE SUMMARY

Jane Butler Kahle

Condit Professor of Science Education, Miami University,
and Chairperson of the Blue Ribbon Committee

Background

In Spring 2002, the Joint Council of the Ohio Board of Regents and the Ohio Department of Education identified mathematics and science education as a critical area for continued systemic reform. Student performances in mathematics and science are the lowest among the five subject areas assessed by Ohio's Proficiency Tests. Further, mathematics continues to be one of two major remediation areas when students enroll in institutions of higher education. However, job opportunities for workforce entrants are increasing in the areas of mathematics, science, and technology. Indeed, the economic future of both the state and its citizens is linked to the capacity of Ohio's K-16 education to prepare students with greatly strengthened mathematical, scientific, and technological skills.

In order to assist the Joint Council and its Blue Ribbon Committee in effecting systemic improvements in K-16 mathematics and science education, a national conference on narrowing achievement gaps was planned for Fall 2002. Based on its success in narrowing achievement gaps in mathematics and science, *Discovery*, Ohio's continuing reform of science and mathematics education, was asked to organize the conference.

Beginning in 1991, *Discovery's* decade of reform resulted in significantly narrowed achievement gaps between African American and European American urban middle school students who were taught by *Discovery* teachers. In addition, student scores on Ohio's Proficiency Tests in mathematics and science significantly increased in schools where over 50 percent of math and science teachers had participated in *Discovery's* sustained professional development. Further, in 1990 the achievement gap between African American and European American eighth grade students on the National Assessment of Educational Progress (NAEP) test in mathematics was 40 points nationally and in Ohio. By 2000, that gap had been reduced by one point nationally, while in Ohio it had been reduced by eight points.

Reflecting on the lessons learned through *Discovery*, presenters and participants who had been successful in narrowing achievement gaps in various local, state, or national initiatives were identified. All presenters were asked to address the following conference goals, providing evidence-based research to support any conclusions from their own work. In addition to nationally recognized presenters, conference participants were identified with comparable expertise in narrowing achievement gaps and were challenged to address the goals in discussion periods.

Goals

The goals of the conference were to provide substantive information concerning the following issues:

1. factors that have contributed, and continue to contribute, to any achievement gaps;
2. strategies that have effectively narrowed achievement gaps and how those strategies may become institutionalized and systemic;
3. barriers that have presented obstacles to narrowing achievement gaps among identifiable subgroups of students; and
4. policy decisions that have addressed achievement gaps.

Organization, Purpose, and Themes of the Conference

The three-day conference was supported and sponsored by the Joint Council, and seven members of each board attended. It was facilitated by *Discovery*. Chancellor Chu and Superintendent Zelman chaired the conference. The first evening brought conference participants and presenters together for dinner and an address. The second day involved state and national experts, while the third day was focused on Ohio's needs and policies and involved only Ohio representatives. The purpose of the conference was to provide background and information that could contribute to the development of policies for Ohio's continued reform of science and mathematics education. It was organized around the following four themes.

Each of the four conference sessions centered on one of four themes:

1. Framing the Discussion,
2. State Level Initiatives that Work,
3. Local/District Level Initiatives that Work, and
4. Cross-Cutting Issues.

Each session highlighted one or more successful projects or strategies for narrowing achievement gaps between subgroups of students (by gender, by race/ethnicity, by socio-economic level, by culture [Appalachian], by geographical location—e.g., rural, urban, suburban). The following chapters in these *Proceedings* provide details concerning both the presentations and discussions from each of the three days.

Recommendations from the Conference

Rich discussions followed each presentation and continued on Day Three among Ohio's participants. Many recommendations are found throughout the *Proceedings*; however, recommendations that received consensus across the sessions are found below.

1. Actions and policies addressing achievement gaps among subgroups of students must focus on raising the achievement of all students until race/ethnicity, culture, gender, and community type no longer predict student achievement level.
2. Equal participation of all students in quality mathematics and science classes is integral to narrowing any achievement gaps. Therefore, policies must address instruction as well as academic content.
3. Policies must provide a long-term vision; data were presented that

indicated that at least 30 years might be needed.

4. The quality of the classroom teacher is the key to any narrowing of achievement gaps, and sustained professional development such as the type promulgated by *Discovery* needs to continue to be supported by state and district level policies. Professional development should be prescriptive with funding provided only to activities that provide evidence of success.

5. Policies requiring that all data be disaggregated by student subgroup need to be continued and reinforced. Further, disaggregating student achievement data by who educated the teacher (e.g., what college or university) could identify and replicate successful teacher preparation programs.

6. Communities may be effective in narrowing achievement gaps by involving diverse stakeholders in educational decisions and by identifying specific pressure points and policies to address them (e.g., free all day kindergarten in Shaker Heights).

7. Evidenced-based research findings must be integrated into policy decision-making.

8. Initially, Ohio needs to focus on factors that may be *manipulative* (e.g., teacher quality, teacher behaviors, class size, tracking practices, and alternative school placements).

9. Involvement of community/ technical college faculty, Arts and Sciences faculty, and elementary and secondary teachers as well as mathematics and science education faculty will be needed.

10 Coordination of policies is needed between the Ohio Board of Education and the Ohio Board of Regents as well as between the state agencies and local districts. Such coordination is facilitated by policies defining and developing one coherent database that is widely assessable to local districts and to state agencies.

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Chapter One
INTRODUCTION

Mary Kay Kelly
Discovery Center, Miami University

Ohio's Invitational Conference on Narrowing Achievement Gaps was conducted over a three-day period in Columbus, Ohio. These *Proceedings* of Ohio's Narrowing the Achievement Gap Invitational Conference have been compiled in order to provide easy access to presentations and discussions for conference participants. In addition, the collection of summaries of addresses, papers, and discussions from each segment of the conference may provide others with background information and insights into topics addressed and discussed. This introduction includes an overview of the conference and these *Proceedings* as well as the conference agenda and the Meeting at a Glance.

Wednesday, September 4

The first evening began with a reception, dinner, and an opening address. Opening remarks were made by *Dr. Roderick G. W. Chu*, Chancellor of the Ohio Board of Regents; *Dr. Susan Tave Zelman*, Superintendent of Public Instruction, Ohio Department of Education; and *Dr. Jane Butler Kahle*, Principal Investigator of Ohio's Systemic Initiative and Director of the *Discovery* Center at Miami University.

In her remarks, Dr. Kahle sketched out the format of the conference and outlined four goals that would link the presentations and discussions. The opening address was given by *Dr. Ronald F. Ferguson* of the Malcolm Wiener Center for Social Policy at Harvard University. Dr. Ferguson's address focused on strategies to narrow achievement gaps between African American and European American students. He focused on the importance of teachers and schools, parents, and communities working together to support students as they overcome barriers to achievement. Ferguson also identified three key teacher characteristics that form a tripod to support student success: teachers' content knowledge, teachers' knowledge of pedagogy tied to content, and teachers' ability to form trusting relationships with students. Ferguson's address is summarized in Chapter 2.

Thursday, September 5

The second day of the conference consisted of four sessions and a luncheon address. Sessions focused on strategies that work to close achievement gaps, how they work, and why. The four sessions included *Framing the Discussion*, *State-Level Initiatives*, *Local/District Initiatives*, and *Cross-Cutting Issues*. Each session, of approximately two hours, included an introduction by a facilitator, the presentation of findings or activities, a lengthy discussion among conference presenters and participants, and a summary of recommendations by a respondent.

The first session, *Framing the Discussion*, set the stage for the conference by identifying factors that have contributed, and continue to contribute, to achievement gaps. *Dr. Patricia Campbell*, President of Campbell-Kibler Associates, Inc., delivered the first paper, which she co-authored with *Dr. Beatriz Chu Clewell*. Dr. Clewell (who was unable to attend the conference) is the Principal Research Associate and Director of the Evaluation Studies and Equity Research Program in the Education Policy Center of the Urban Institute. The second paper of the session was delivered by *Dr. Jaekyung Lee*, Assistant Professor, State University of New York at Buffalo. Chapter 3 includes a summary of the presentations and discussion of this session along with two short papers by the presenters outlining their recommendations.

The second session, *State-Level Initiatives*, focused on programs and efforts at the state level that show promise in closing the achievement gaps. *Dr. Dwight Pearson*, Section Chief for Closing the Achievement Gap in the Division of School Improvement at the North Carolina Department of Public Instruction, delivered the first paper. The second paper was delivered by *Dr. Norman Webb*, Senior Research Scientist for the Wisconsin Center for Education Research of the University of Wisconsin-Madison. Chapter 4 includes a summary of the presentations and discussion of this session along with two short papers by the presenters outlining their recommendations.

The second session was followed by lunch and an address given by *Dr. Susan Fuhrman*, Dean, Graduate School of Education, University of Pennsylvania. Dr. Fuhrman's presentation focused on going beyond mere reporting of achievement data to investigations of classrooms practices regarding delivery of the intended curriculum. She also addressed the need for and accountability for significant improvement in achievement status more than mere gains in achievement. Dr. Fuhrman's address and the questions and answers that followed are summarized in Chapter 5.

The third session, *Local/District Initiatives,* focused on city and school district level initiatives associated with positive results in closing achievement gaps. *Dr. Ronald Ross*, the Dr. Israel Tribble, Jr. Senior Fellow in Urban Education Reform at the National Urban League and former superintendent of Mount Vernon Public Schools, New York, delivered the first address. *Dr. Bernice M. Stokes*, Executive Director of Elementary Education, and *Dr. James Paces*, Executive Director of Curriculum, both of the Shaker Heights (OH) City School District, gave the second presentation. Chapter 6 includes a summary of both presentations and the discussion of this session.

The final session on Thursday, *Cross-Cutting Issues,* focused on issues that cut across local, state, and national areas. *Dr. Kathryn Scantlebury*, Associate Professor in the Department of Chemistry and Biochemistry and Secondary Science Education coordinator at the University of Delaware, delivered the address. Chapter 7 includes a summary of the presentation and discussion of this session along with a short paper by Dr. Scantlebury outlining her presentation and recommendations.

Friday, September 6

To facilitate further discussion and focus on policy recommendations, the final morning of the conference consisted of

small breakout groups on each of the four conference session themes. In each group, participants and presenters focused on implications for policy-makers in Ohio generated by information and insights presented and discussed during Day Two of the conference. The conference ended with a reconvening of the larger group and reports from the break-out groups. These reports are summarized in Chapter 8 along with concluding remarks.

Agenda

Ohio's Invitational Conference: Narrowing Achievement Gaps
September 4-6, 2002
Adam's Mark Hotel, Columbus, Ohio

Sponsored by:
The Joint Council of the Ohio Board of Regents and the Ohio Board of Education

Co-Chaired by:
Susan Tave Zelman, Superintendent of Public Instruction
Roderick G. W. Chu, Chancellor of the Ohio Board of Regents

September 4th

5:00 PM	Reception and Cash Bar (Room 20)
6:00 PM	Dinner
7:00 PM	Welcome: *Susan Tave Zelman* and *Roderick G. W. Chu*
	Goals and Outcomes: *Jane Butler Kahle*, Condit Professor of Science Education, Miami University
	Dinner Presentation: *Ron Ferguson*, Senior Research Associate, Malcom Wiener Center for Social Policy, Harvard University
8:30 PM	Working Meeting: Facilitators, Respondents, and Recorders

September 5th

7:30 AM	Continental Breakfast (Hayes A)	
8:00 –10:15	Review of Briefing Books: Jane Butler Kahle	
	Theme One:	**Framing the Discussion**
	Presentations:	*Beatriz Chu Clewell*, Senior Researcher, Urban Institute and *Patricia Campbell*, President, Campbell/Kibler Associates
		Jaekyung Lee, Assistant Professor, State University of New York at Buffalo
	Facilitator:	*Steve Meiring*, Centers Coordinator, Ohio Resource Center for Mathematics, Science and Reading
	Respondent:	*Cleo Lucas*, Director of Planning, Canton City Schools
10:15-10:30	Morning Break	

10:30-12:30	Theme Two:	**State Level Initiatives that Work**
	Presentations:	*Dwight Pearson*, North Carolina Department of Public Instruction
		Norman Webb, Senior Researcher, Wisconsin Center for Educational Research
	Facilitator:	*Pam Young*, Associate Superintendent, Ohio Department of Education
	Respondent:	*Sylvester Small*, Superintendent, Akron City Schools
12:30-1:30	Lunch	**Challenges for Ohio**: *Susan Fuhrman*, Dean, Graduate School of Education, University of Pennsylvania with *Iris Weiss*, President, Horizon Research Institute
1:30-3:30	Theme Three:	**Local/District Level Initiatives that Work**
	Presentations:	*Ron Ross*, former Superintendent, Mt. Vernon City Schools (NY)
		Jim Paces and *Bernice Stokes*, Directors of Secondary/ Elementary Education, Shaker Heights City Schools
	Facilitator:	*Joseph Johnson*, Special Assistant to the Superintendent, Ohio Department of Education
	Respondent:	*George Tombaugh*, Superintendent, Westerville City Schools
3:30-3:45	Afternoon Break	
3:45-4:45	Theme Four:	**Cross-Cutting Issues**
	Presentation:	*Kathryn Scantlebury*, Associate Professor of Chemistry, University of Delaware
	Facilitator:	*Jonathan Tafel*, Vice Chancellor, Ohio Board of Regents
	Respondent:	*Wendy Webb*, Assistant Superintendent, Youngstown City Schools
4:45-5:00	Closing Remarks: Chancellor Chu and Superintendent Zelman	

September 6th

8:00 AM	Continental Breakfast for members of the Joint Council, the Blue Ribbon Committee, Ohio participants, Agency representatives, Presenters (as available), Respondents, and Recorders (Room 30)
8:30-9:30	Session Summaries by Respondents
9:30-11:00	Small Group Discussions by Theme to develop recommendations
11:00-11:45	Report out recommendations from small groups by Facilitators
11:45-12:00	Next Steps: Larry Fruth, Jon Tafel and Pam Young

Meeting at a Glance

Ohio's Invitational Conference: Narrowing Achievement Gaps

Time	Session	Speakers	Facilitator	Respondent	Recorder
Wednesday					
7:00 p.m.	Dinner Presentation	Ronald Ferguson			Mary Kay Kelly
Thursday					
8:00 a.m.	Framing the Discussion	Beatriz Chu Clewell & Patricia Campbell Jaekyung Lee	Steve Meiring	Cleo Lucas	Mary Kay Kelly
10:30 a.m.	State Level Initiatives	Dwight Pearson NormanWebb	Pamela Young	Sylvester Small	Terry McCollum
12:30 p.m.	Lunch Address	Susan Fuhrman with Iris Weiss			Janelle Gohn
1:30 p.m.	Local/District Initiatives	Ron Ross Jim Paces & Bernice Stokes	Joe Johnson	George Tombaugh	Iris DeLoach Johnson
3:45 p.m.	Cross-Cutting Issues	Kathryn Scantlebury	Jon Tafel	Wendy Webb	Carla Johnson
Friday					
8:30 a.m.	Session Summaries				
9:30 a.m.	Small Group Discussions				
11:00 a.m.	Small Group Reports				
11:45 a.m.	Next Steps	Larry Fruth, Jon Tafel, and Pam Young			

Chapter Two
DINNER ADDRESS

Presenter ***Ronald Ferguson***

Recorder's Summary
Mary Kay Kelly
Discovery Center, Miami University

In the opening address, Dr. Ronald Ferguson discussed his research on achievement gaps between African American and European American children. He reported results from the Early Childhood Longitudinal Study that found that achievement gaps related to reading readiness between African American and European American children are already apparent when children enter kindergarten. Ferguson reported that this gap may be explained by the level of early reading experiences children receive prior to formal schooling. The study found that college-educated African American mothers had fewer books in their homes than did European American mothers who had high school education. Based on this early indication of a gap in achievement, Ferguson stressed the importance of teachers and schools working together with parents and communities to bolster resources aimed at helping children overcome barriers.

Next, in focusing on the needs of students who are struggling, Ferguson spoke about the help-seeking avoidance of low achievers. Students who are struggling academically or need tutoring are most likely to avoid seeking help. However, when teachers take "responsibility for the emotional health and growth" (Ferguson) of their students, those students in the bottom half of the class academically do not avoid getting the help they need to be successful. It is the teacher's ability to form trusting and caring relationships with children that can make a difference in student outcomes.

Dr. Ferguson stressed the importance that developing trusting student-teacher relationships makes in student achievement. According to Ferguson, trusting relationships are built when students feel that the teacher is motivated to help them succeed and that the teacher is competent, consistent, dependable, reliable, and respectful. Trusting teacher-student relationships, along with teacher content knowledge and teacher knowledge of pedagogy linked to content areas, form Ferguson's *Tripod* for student success (See Figure 1). Together, the three components of the tripod "should affect teachers' capacity and willingness to engage children effectively in learning and, therefore, children's preparation to reach prescribed performance standards in the domains of particular content standards" (Ferguson).

With this tripod as a foundation, Ferguson identified five tasks of social and intellectual engagement that pervade every interaction between teachers and students (see Table 1). The outcome of each task is dependent on teacher factors (the three legs of the tripod) as well as five questions that students ask themselves (see Table 2). These questions reflect students' perceptions of themselves, of their parents and teachers, of the curriculum and instruction they receive, and of their relationships with peers. While each of these perceptions influences

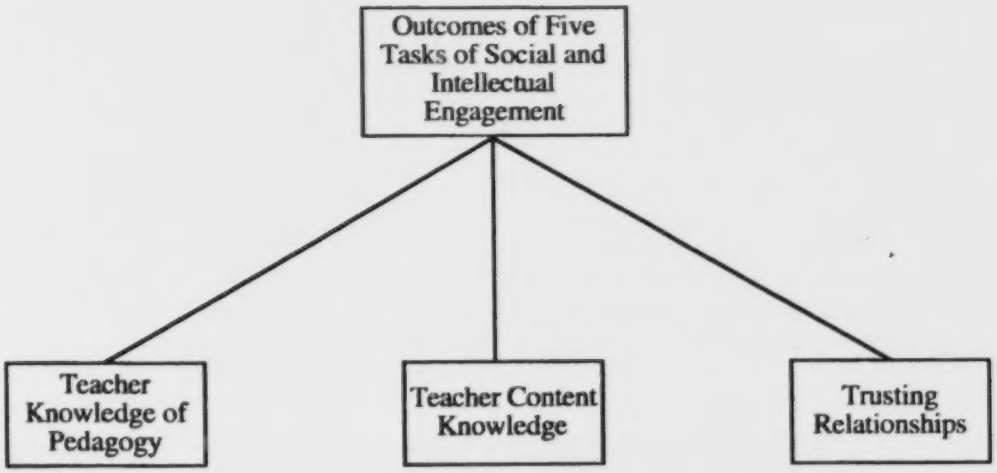
Outcomes of Five Tasks of Social and Intellectual Engagement
Teacher Knowledge of Pedagogy
Teacher Content Knowledge
Trusting Relationships

Figure 1: Ferguson's tripod for student success.

Table 1: Five tasks of social and intellectual engagement and possible positive and negative outcomes of each task.

Task	Possible Outcomes		
1. Initial Encounter	Trust and interest	or	Mistrust and disinterest
2. Power Struggle	Balance between teacher control and student autonomy	or	Imbalance between teacher control and student autonomy
3. Goal Setting/Sense of Commitment (State of Mind)	Ambitiousness	or	Ambivalence
4. Performing Work on Task (State of Activity)	Industriousness	or	Disengagement and discouragement
5. Task Completion	Consolidation	or	Irresolution and disconnection

the outcome of each of the five tasks, the relationships that form between teachers and students can moderate student perceptions and the outcomes.

Ferguson reported that the research literature (Jussim et al.; Casteel; Mickelson) indicates that teacher encouragement is more important for African American students than for European American students. When African American and European American eighth grade students were asked whom they most wanted to please with their school work, African American boys and girls responded, more often than European

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American children, that they were aiming to please their teachers. Sixty-two percent of African American boys and 81 percent of African American girls reported that they wanted to please their teachers with their class work. Only 32 percent of European American boys and 28 percent of European American girls had the same response (Casteel). According to Ferguson, research also shows that students work hard when teachers demand and encourage it. Ferguson pointed out that while this is true regardless of race, the number of parents in the home, the education level of the mother, or students' self-reported GPA, teacher effects are measurably stronger for African American students than for European American students.

Table 2: Questions students ask that affect the outcomes of the tasks of social and intellectual engagement.

1. Is success feasible? • Am I smart enough? • Will the teacher explain things well enough that I will understand? • Will help be available?
2. Will teachers and parents care about how I do? •Will they encourage me? •Will they monitor and comment on my performance, good or bad?
3. Will lessons be relevant or useful? Now or later?
4. Will lessons be interesting and fun or boring?
5. Will doing well affect my relationships with my peers? •Will there be negative/positive peer pressure? •Am I concerned about standing out from peers so that I might hold back (even if there is no peer pressure to avoid standing out)?

Chapter Three
FRAMING THE DISCUSSION

Presenters	*Patricia Campbell* *Beatriz Chu Clewell* *Jaekyung Lee*
Facilitator	*Steve Meiring*
Respondent	*Cleo Lucas*
Recorder	*Mary Kay Kelly*

Recorder's Summary

Mary Kay Kelly
Discovery Center, Miami University

Introduction

The first session of the Achievement Gap conference, entitled "Framing the Discussion," set the stage for the conference by identifying factors that have contributed, and continue to contribute, to achievement gaps. Dr. Patricia Campbell of Campbell-Kibler Associates, Inc. delivered the first paper co-written with Dr. Beatriz Chu Clewell of The Urban Institute. The second paper of the session was delivered by Dr. Jaekyung Lee from the State University of New York at Buffalo. Steve Meiring, Centers Coordinator, Ohio Resource Center for Mathematics, Science, and Reading and facilitator of the session, began by noting that there have been concerns about the achievement gaps in Ohio for quite some time. There have also been efforts to understand the gaps and to work toward closing them. However, there are three things that make the present time different for this issue. First, this issue is currently garnering more *attention* nationwide than it has in the past. Second, *legislative drivers* stemming from the current administration's *No Child Left Behind* policy have made it possible to use disaggregated data to determine policy and develop programs that affect various groups of students. Third, there is currently a shift from focusing on changes that will have an impact on individual circumstances to determining what works for *system level changes*. Together, these three factors make the time ripe for addressing achievement gaps in Ohio.

Summary of Presentations

The presentations in this session focused on clarifying what it means to "reduce the achievement gaps." Dr. Campbell's presentation identified strategies for creating policy that would help to reduce achievement gaps. She also shared her research on effective schools in low-income neighborhoods that offers some hope for reducing and eliminating achievement gaps. Dr. Lee's presentation looked at the fluctuations in the African American/European American and Hispanic/European American achievement gaps between the 1970s and the

1990s. He investigated factors that may have contributed to the narrowing of the gaps during the 1970s and 1980s and widening of the gaps during the 1990s.

Dr. Patricia Campbell and Dr. Beatriz Chu Clewell[1]

Dr. Campbell began her presentation by noting what students say helps them learn:

> *With math he explains it on a board and if somebody don't understand it, he will keep doing it over until we understand it.*

> *[Teacher] describes it, does an example problem, shows us the steps — if you still don't get it you raise your hand and tell the teacher the problem.*

> *When we learn and there are people who don't know it, he asks them who doesn't understand, raise your hand and he will help them. Until everyone knows it, he goes over and over and then gives us a test.*

While the paper by Campbell and Clewell that is included in this chapter summarizes their primary recommendations to Ohio policy makers, it is interesting to note some of the data from the Effective Schools Study that were shared during the presentation. Campbell and Clewell have found that there are schools in very low-income neighborhoods in which students are performing at the same levels of proficiency as students from schools where there are few low-income students. Figures 1 and 2 show that fourth grade students from highly effective, low-income schools had levels of proficiency at the basic and proficient levels similar to students in schools where 20 percent or fewer of the students came from low-income families. In addition, the students from the highly effective, low-income schools had substantially higher levels of proficiency than students from predominantly low-income schools that were not considered highly effective.

Given this finding, it is interesting to look at the differences between the highly effective, low-income schools and other schools in similar neighborhoods. Campbell and Clewell found that teachers in highly effective schools have more characteristics associated with high-quality teaching than do teachers in other schools. For example, teachers in the highly effective schools were more likely to be certified and more likely to hold a postgraduate degree than teachers in schools in similar neighborhoods. In addition, they had more course work in mathematics and science content and had participated in more hours of professional development than their counterparts in typical schools (See Table 1).

In considering these numbers, it is interesting to note why highly-qualified teachers are clustered in the highly effective schools. Campbell and Clewell found it is not the neighborhood, the socio-economic status of the students, or the race/ethnicity of the students that attracts these teachers. Furthermore, excellent teachers do not cluster in these

[1] Data reported in this section are taken directly from the overheads prepared by Campbell and Clewell. The Effective Schools Study is being conducted by Urban Institute and Campbell-Kibler Associates (80 Lakeside Dr., Groton, Ma. 01450, campbell@campbell-kibler.com, www.campbell-kibler.com).

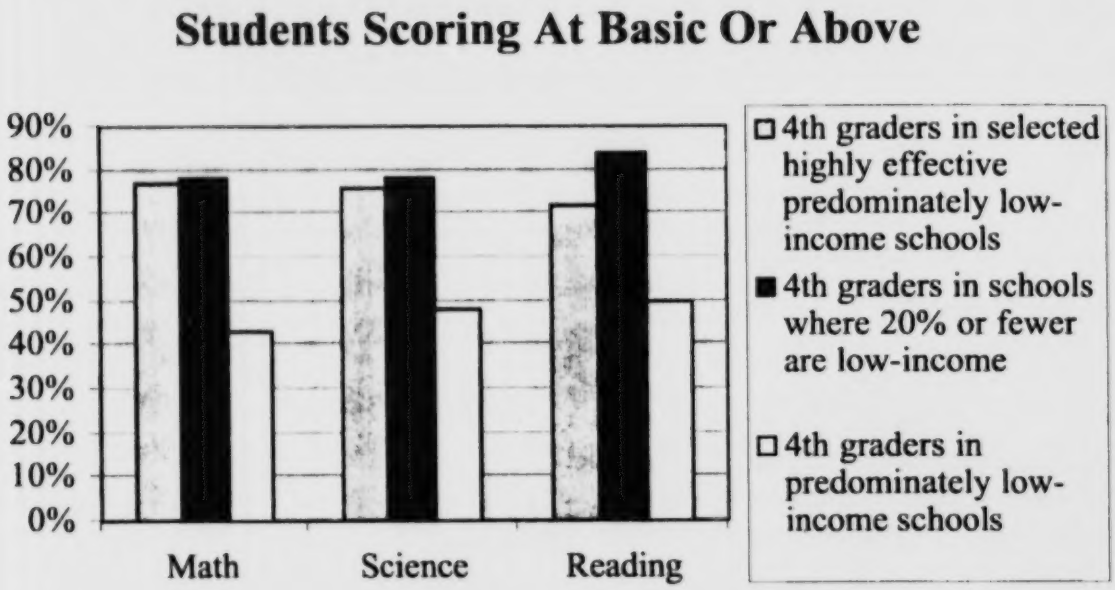

Figure 1: Fourth grade students scoring at or above "basic" from predominantly low-income schools, at highly effective, predominantly low-income schools, and at schools where 20% or fewer families are considered low-income.

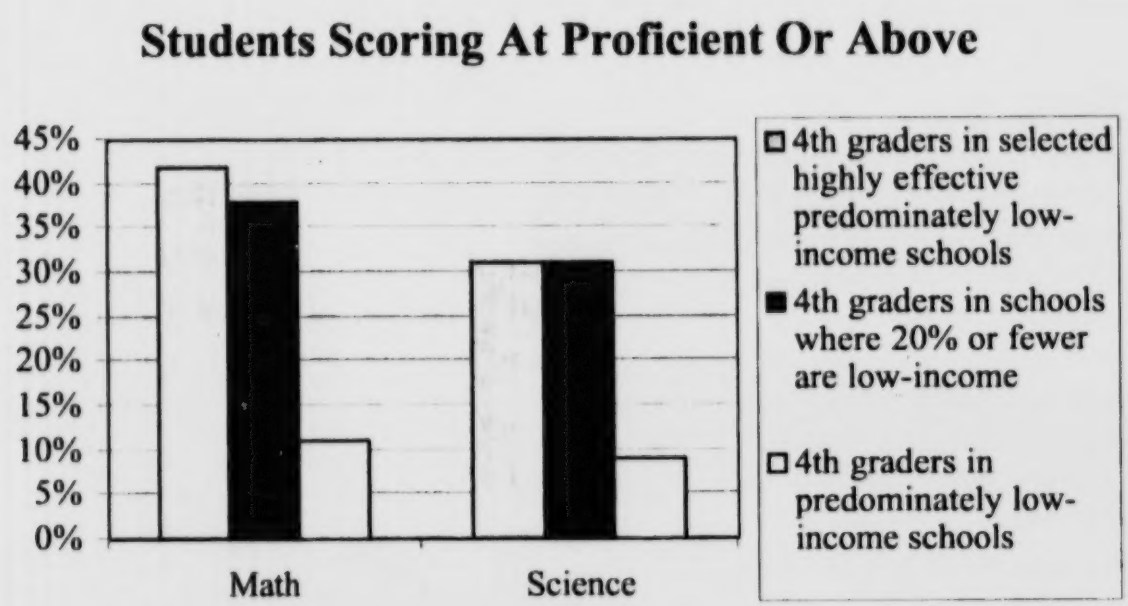

Figure 2: Fourth grade students scoring at or above "proficient" from predominately low-income schools, at highly effective, predominately low-income schools, and at schools where 20% or fewer families are considered low-income.

Table 1: Characteristics of teachers in highly effective, low-income schools and typical low-income schools.

Teacher Characteristics	Highly effective Schools	Typical Schools
Certified/licensed	90%	76%
Post-graduate degrees	64%	44%
College math courses	3.6	2.6
College science courses	4.8	3.6
Ten-plus hours of math professional development	84%	29%
Ten-plus hours of science professional development	71%	20%

schools because of teacher salary and benefits, professional development opportunities, hiring policies, or class size. However, among the things that may attract highly-qualified teachers and keep them at these schools are positive relationships with principals and principal/ teacher subversion of hiring policies.

Campbell ended her presentation where she began, by listening to the students. She reported what students say does not help them learn:

> *When we are supposed to be learning, we are drawing pictures and stuff.*
>
> *[The teacher will] give us a crossword puzzle and that doesn't help us learn anything.*
>
> *She sits and ignores us; do that to the bad people and the good kids don't have anything to do.*
>
> *When [the teacher] writes the homework on the board, he erases it fast—he does it because he thinks people are not paying attention.*

Dr. Jaekyung Lee[1]

Dr. Lee's presentation focused on addressing the following two research questions:

1. Did African American and Hispanic achievement gaps in reading and math narrow or widen over the past 30 years?
2. What factors contributed to the narrowing or widening of the racial and ethnic achievement gaps?

Lee found that the African American/ European American and the Hispanic/ European American achievement gaps in mathematics and reading at all age groups as measured by NAEP narrowed through the 1970s and 80s, but began to stabilize or widen during the 1990s. In fact, during the 1990s some of the gaps returned to pre-1970 ranges. Gaps between African

[1] Data reported in this section are based on Dr. Lee's paper Racial and ethnic achievement gap trends: Reversing the progress toward equity? *Educational Researcher,31* (1), 3-12. Overheads have not been included here due to their poor quality when reproduced; however all graphs shared are available at (http://www.aera.net/pubs/er/toc/er3101.htm).

American and European American students were greater than between Hispanic and European American students. Only 27 percent of African Americans, as compared with 70 percent of European Americans, meet the level of minimum skills required to get a low-level job. Lee also found that the African American/ European American and the Hispanic/ European American achievement gaps as measured by the verbal and mathematics SAT tests widened between 1977 and 2000.

In examining average score trends on the NAEP mathematics test by percentile rank over time for European American, African American and Hispanic 13-year-olds, Lee found that in all groups, students in the lower percentile groups (low-achieving students) made greater gains than those in the higher percentile groups (high-achieving students) in the 1970s and 80s. In addition, the gains for low achievers were greater for African American and Hispanic students and lower for European American students. However, during the 1990s the move away from basic skills testing toward competency testing favored the higher percentile groups. That is, higher achieving students made larger gains in average score than did low-achieving students. During this time the gains made by European American high-achieving students were greater than those made by their African American and Hispanic counterparts. These findings suggest than changes in school curriculum may account for the interaction between race and achievement level observed.

Lee investigated other factors that may have influenced the narrowing and then the widening of the achievement gaps over time. These factors included changes in socioeconomic and family conditions, changes in youth culture and student behaviors, and changes in schooling conditions and practices. He found that the two factors that seemed to follow the gap trends most closely were school desegregation and dropout rates. Dropout rates for Hispanic students skyrocketed during the 1990s.

In summary, Lee found that achievement gaps in mathematics and reading as measured by NAEP between African American and European American and between Hispanic and European American students narrowed in the 1970s and 1980s, then began to widen in the 1990s. In addition, he found that "conventional measures of social, cultural, and educational conditions might account for some of the achievement gap trends for a limited time period or for a particular racial or ethnic group" (Lee). However, these measures do not fully explain the fluctuation of the achievement gaps over the last 30 years. He concluded by stating that the "goal is to accomplish both academic excellence and equity despite tension" (Lee). He recommended that for "more realistic and fair school accountability, we need to better understand what schools can do and how soon they can do it" (Lee). Further, he recommended that we "pay attention to the process as well as outcomes" and that the achievement gaps be narrowed in a "reciprocal and inclusive manner" (Lee). In addition, Lee recommended that "racial integration and dropout prevention should be pursued at the same time," stating that because dropout rates are high among African American and Hispanic students, the achievement gap differences may be misleading since those students with lower

achievement have already dropped out by the time the high school achievement measures are administered.

Summary of Discussion

The following paragraphs summarize the questions, answers, and comments of participants in the discussion portion of this session. To improve flow and readability, attributions to particular speakers have not been given.

Point of Discussion: Widening of the Achievement Gap in the 1990s

The first point of discussion focused on factors that might have caused gaps in achievement to widen during the 1990s after having made progress toward narrowing during the 1970s and 80s. While there are no certainties, and it was made clear that more research in this area is necessary, it was hypothesized that the cause of the widening of gaps was due to differential achievement between African American students, who made no progress during the 1990s, and European American students, who made moderate progress during this decade. During the 1990s policies were put into place to attempt to raise standards; however, policy implementation often varied with context. An analogy was made to the "Sesame Street Effect" while the program was intended to target minority children, most gains were made by middle-class, European American children whose families tuned in to watch the show. It is important to determine whether educational policies will have differential effects on different populations.

Point of Discussion: Teacher Quality

The next discussion focused on the issue of teacher quality, with participants debating the best way to measure it. Some attested to the decline in teacher quality by noting a dramatic drop in the quality of teacher education candidates. This argument focused on the achievement of teacher education candidates, noting that SAT scores of students in teacher education programs have dropped over the last 40 years, while their GPAs have not dropped. This indicates a differential between high and low-quality teacher education programs.

Another argument focused on measuring teacher quality by looking at teaching outcomes. The argument was made that the teaching practices used in the classrooms matter and should be measured. It was noted, however, that measuring teaching practices and attributing student outcomes to particular practices is very difficult and has not been done adequately. While standards-based teaching practices have been shown to be effective in some cases, they have not been shown definitively to have an effect on student outcomes on a broad scale. One cannot assume that what is observed (e.g., use of manipulatives and grouping practices) is what makes the teaching effective. For example, it may be the teachers' ability to adapt to the needs of students rather than what they are actually doing that is making a difference. It may be the adaptive nature of the teachers' teaching—knowing when to use manipulatives and how—that is an attributing factor. To judge the effectiveness of a particular teaching practice it is necessary to observe both before and after its use. A study in Michigan, involving more than 120 schools, is currently underway to investigate the effectiveness of teaching practices. The study is using videotaped lessons and teacher logs to determine the

effectiveness of teacher-student interactions and various teaching practices.

From this focus on research, the issue of teacher quality shifted to a focus on teacher education programs. Two primary problems were discussed. The first is a disconnection between what preservice teachers learn at the university and what is modeled when they are placed in the schools for field work. Teachers in the schools are not correctly modeling the practices that preservice teachers learn in their methods classes. For example, an effective use of cooperative grouping has been shown to have an impact on student achievement. However, preservice teachers observe classroom teachers modeling it incorrectly or not using it at all. It was noted that standards for teacher education programs in the 1980s and 90s were not as high as they currently are. Therefore, many classroom teachers during that period may not have the skills and knowledge to demonstrate the practices that are needed to produce desired gains. It is now necessary to build the capacity of the teaching population.

The second issue addressed was the disconnection between **how** preservice teachers are taught in the Arts and Science courses they take and **what** they are taught about effective pedagogy in teacher education courses. Students in education who have Arts and Science backgrounds are not familiar with standards-based teaching practices because many professors in the Arts and Sciences are unfamiliar with good pedagogical practices or won't use them. It is important to develop strategies to help this group of preservice teachers adopt effective models.

Finally, the discussion of teacher quality turned to the school level. It was noted that Cincinnati Public Schools has implemented a new teacher evaluation program. The teacher rating system for this program is based on criteria from the National Board of Professional Teaching Standards and Praxis. In the last two years it was found that students of teachers who were highly rated had higher gains in achievement than students of teachers who were not as highly rated. Teacher ratings were based, in part, on six observations by trained observers throughout one school year. Interestingly, high-performing teachers were not clustered in high-performing schools—they were distributed across the board at schools with varied performance levels.

While much of this discussion focused on how to determine effective teaching practices and how to measure teacher quality, it was also pointed out that the current focus on student outcomes places a very great burden on teachers. The teaching process is very complicated for classroom teachers because so many competing tasks demand their attention. There is mass confusion. While there is a need to collect school-based data, teachers do not have the time to do this. Schools and districts need researchers who can collect the data and interpret them into findings that the school can use.

Point of Discussion: Narrowing of the Achievement Gap From 1970-90

The next point of discussion centered on what may have caused achievement gaps to narrow during the 1970s and 80s. Dr. Campbell noted five possible areas that, together, may have helped narrow the achievement gaps during this period:

1. Changes in coursework patterns between 1982 and 92:
    - Average number of higher level mathematics course

increased more for African American than European American students.

2. Shift in resources for schools between 1960 and 90:
   - Convergence of resources across schools attended by African American and European American students.
3. Decrease in the pupil-teacher ratio between 1960 and 90:
   - Ratios fell steadily for cohorts entering school between 1960 and 1990. Although both African American and European American students were affected, effects were much larger for African American students.
4. Changes in the family between 1970 and 90:
   - Convergence in levels of education of African American and European American parents.
   - Convergence of other SES indicators.
5. Desegregation and the War on Poverty between 1968 and 72:
   - Symbolic Impact: effect on the expectations, motivations, beliefs, and attitudes of African American students and their parents.
   - Direct Impact: for African American students in the South, attendance at desegregated schools was associated with a rise in NAEP scores. Outside of the South, gains of African American students were associated with the growth of antipoverty and affirmative action programs. (Taken from overheads used by Dr. Campbell)

Dr. Lee noted that from an international perspective, a gap in achievement between majority and minority groups is not a phenomenon peculiar to the United States. In the U.S., given the diversity of the population and the diversity of educational practices, a gap in achievement is not surprising. In fact, achievement gaps persist even in countries where education of teachers, school curricula, and educational practices are highly centralized. For this reason, it is important to look beyond teacher issues to identify the sources of the achievement gaps. One participant cautioned that despite the international perspective, it is important that we not consider gaps in achievement as normal or acceptable.

Point of Discussion: Hiring Practices, Staff Development, and Teacher Retention

It was noted that teachers in highly effective schools have greater levels of participation in mathematics and science coursework and are more likely to be certified than teachers in ineffective schools. Highly effective schools have found ways to attract and keep good teachers. Principals and teachers in highly effective schools have found ways to circumvent hiring rules set forth by teacher unions and districts by being on the alert for "good hires" and recruiting promising student teachers.

While participants noted the importance of making good hires, they pointed to continuing need to develop the existing teaching force and to prevent excellent

teachers from leaving the profession. Research on teacher professional development indicates that there are no clear answers to the length or content professional development necessary to get the best results. However, professional development activities that are not directly related to what teachers do in the classroom do not have an impact on student achievement.

With regard to the necessity of keeping good teachers in the system, participants noted that unless the problem of attrition is addressed, focusing all the attention on alternative certification programs—intended to increase the supply of teachers—is like pouring water into a bucket full of holes. When teachers are asked why they believe teachers in general leave the profession, they claim that low pay is the problem. However, when teachers who have left the classroom are asked why *they* left the profession, they most often cite poor working conditions stemming from poor relationships with principals as the primary reason. Working conditions for teachers must be improved in order to keep highly qualified and effective teachers from leaving the classroom.

Point of Discussion: Recommendations for Policy

At this point in the discussion, Steve Meiring, the facilitator, acknowledged that the research does not provide clear-cut answers on how to eliminate achievement gaps. However, he noted that district officials and policy makers must come up with strategies to address the problem. He then asked the group to consider what policies and recommendations could be gleaned from the discussion.

It was noted that an important point had not yet been addressed in discussing existing achievement gaps. As the population becomes more diverse, language and cultural differences will continue to be major factors in the schools. It was **recommended** that several questions pertaining to the issue of diversity be addressed: To what extent is diversity taken into consideration in research and policy? To what extent are changes in classroom practices used to address diversity? How are teacher education programs embracing the notion that diversity is here and will continue to increase?

In response, some participants voiced concern that even research supported by the National Science Foundation may not adequately address issues of diversity. It is widely acknowledged that language and cultural factors are important issues in assessment, yet perhaps data are misinterpreted because assessments are biased for cultural issues. It was **recommended** that tests and assessments be examined more closely for cultural and language bias. Further, it was **recommended** that the level of content taught in middle and high schools be raised. According to Ron Ferguson's presentation, students in low-achieving schools do not receive instruction beyond the fourth grade level. This is a major contributor to achievement gaps. To increase the level of content instruction it was **recommended** that teachers be required to have a higher level of content knowledge themselves. In addition, teachers should be questioned about why they are not teaching at a higher level of content knowledge.

Others pointed to the need to prevent artificial closing of achievement gaps. If the expectations for student performance are set too low, it may appear that the gap

is being closed when actually all scores may be approaching the ceiling. If this is the case, the upper group is not advancing much and this provides a means for the lower group to make a gain on them. It was **recommended** that policies ensure that all students are gaining every year.

The next **recommendation** was that decision-makers look at how policies have played out over time. New policies must consider the impact that policies from 30 or 40 years ago are still having on schools. For example, the school funding issue must be considered. Although there may not be any levers to influence this issue, any new policy must consider the impact of school funding issues. In addition, it was **recommended** that any policies regarding school funding explicitly state how the money is being used and which students are being targeted with the funds. The current reporting of "Per Pupil Funding" does not adequately describe where resources are going and whom they are benefiting.

It was **recommended** that teacher tenure policies be examined closely. In addition, rather than focusing on how to improve the skills of poor teachers, it was **recommended** that the universities that trained these teachers be held responsible for remediation. If schools can be reported as "failing," the universities that trained the teachers in these schools should also be reported as failing.

The need to involve Arts and Sciences faculties in programs for teacher education students sparked several recommendations. It was **recommended** that the number of content courses required for teacher education degrees be reconsidered and that science and mathematics courses be designed specifically for education majors. It was also **recommended** that the Arts and Sciences faculty be asked to create these courses. Many times they are not asked to participate in development of teacher education curriculum. However, it was also noted that incentives are needed to encourage Arts and Sciences faculties to become more involved in teacher education, since current tenure and promotion requirements may discourage such involvement. Another **recommendation** was that education specialists should be placed within content departments. This is being done already in several universities and through several projects, like Kaleidoscope, which bring together the discipline and the education experts. There is some movement in colleges of Arts and Sciences to be more involved in education; however, Arts and Science faculty do not often realize that they are also teacher educators.

The next set of recommendations involved classroom practices. While the importance of classroom practices in affecting student achievement is clear, the quality of instruction has not been measured adequately. It was **recommended** that research be conducted to measure the quality, in addition to the frequency, of teachers' classroom practices. Students and teachers need to report the practices used and observers need to be placed in the classrooms to gather evidence. In addition, it was **recommended** that teachers as well as schools be rewarded for improved practices. When schools alone were rewarded for increasing the number of students above proficiency, some schools subverted and focused efforts only on those students who had the likelihood of rising above proficiency, ignoring those whose scores were not likely to improve.

The final recommendation coming from the *Framing the Discussion* session

focused on incentives. Systems will not change without the proper incentives to do so. It was **recommended** that incentives address the possibilities of loopholes and guard against them. Participants suggested that incentives be targeted at areas where they will be most likely to affect desired outcomes.

Conclusion

In concluding the session, Mr. Meiring asked the two presenters to sum up their recommendations. Dr. Lee's primary recommendation was to provide a system of incentives to all involved in the process: including students, teachers, schools, university faculty, and universities themselves. He recommended that this incentive system be differentiated to address various levels of need or current status. He believes it is very important to recognize the progress of students who are far behind but are making some level of progress, as well as those who are not so far behind and are also making progress.

Dr. Campbell recommended that the question, "What's in it for me?" be asked in relation to all who are part of the process. The system must respond to the needs of those who will participate. She also recommended that a "Ready-Fire-Aim" model of educational reform be taken. In this model the system is designed, evaluated, and then redesigned in light of the data. In this model the time frame for reflection and redesign becomes shorter and shorter over time. This rapid prototyping model should be a keystone in trying to implement reform. It is important to acknowledge that we will not get it right the first time, but we need to learn from our mistakes. In addition, she noted, "A bad measure of the right thing is better than a good measure of the wrong thing." As a final thought, Campbell recommended that if only one strategy should be pursued as a place to start, it should be targeted improvement of teacher quality.

Finally, Cleo Lucas, Executive Director of Canton City Schools and the respondent for this session, summarized the recommendations stemming from this discussion thus:

1. Listen to the clients. Learn from what the students say works and does not work for them.
2. Develop the teaching pool by working with educators, especially in the content areas.
3. Pay attention to teacher/principal relationships.
4. Ask hard questions and subvert roadblocks with the purpose of doing what is best for the students.
5. Ensure that every student grows annually by not targeting assistance only to those students who can help raise a school's test scores, while ignoring others.
6. Hold institutions of higher education responsible for the quality of the teachers they produce.
7. Provide professional development to tenured teachers as well as to those who are new to the profession to help them produce better results in the classroom.
8. Decide how to measure best practices in the classroom to determine what practices should be implemented or revised.
9. Provide incentives and regulations that will work system-wide to build capacity and the will to change.

Presenter's Summary:
Narrowing Ohio's Achievement Gap: Framing the Questions

Patricia B. Campbell, PhD
Campbell-Kibler Associates, Inc.

Beatriz Chu Clewell, PhD
The Urban Institute

Introduction

In confronting the awe-inspiring task of narrowing the achievement gap, it is useful to establish the parameters within which our discussion will take place. It is also useful to draw on existing knowledge—both research-based and experiential—to contextualize and focus on identification of factors that contribute to the achievement gap and strategies required to eliminate it. The following suggestions might help us get started.

#1: Clarify What We Mean When We Talk about Reducing the Achievement Gap. In talking about reducing the achievement gap, it is important that we be clear about what that means. It *does not* mean that different groups should be equally apt to meet minimal standards. Rather, elimination of the gap means that students' gender and race/ethnicity (or any other characteristics) do not predict their educational participation and achievement. This does not mean that all students must score the same. The ideal outcome is that female and male African American, American Indian and Hispanic students *as a group*, for example, participate and achieve to the same degree as do White and Asian American male students *as a group*. "Reducing the gaps while all gain" should be one of our mantras.

#2: Focus on Manipulable Factors that Contribute to the Achievement Gap. The chief criterion for identifying those contributing factors that we want to address is that they be *manipulable* through policy and practice. We should focus on variables that can be changed, such as teacher behaviors or teacher knowledge or class size, rather than on variables such as students' socioeconomic status, which are difficult or impossible to change.

#3: Remember that There Is No Need to Reinvent the Wheel. We know that the achievement gap between African American and White students narrowed considerably between the late 1970s and 1990. What changes in general and educational policy and practice occurred that have contributed to the narrowing of this gap? What can we learn from these changes? It is important for us to remember that the development of strategies to narrow the gap cannot take a "one size fits all" approach, but must be sensitive to differences among groups. "What works for whom" should be another of our mantras.

#4: Develop a Plan to Reach the Goal: How Do We Get from Here to There? Structuring a coherent, effective approach to narrowing Ohio's achievement gap requires careful planning. An approach should be designed that combines research to identify the key *manipulable* contributing factors to the achievement gap; establishes intervention approaches to address these factors; applies evaluation and measures to assess the effectiveness of the

intervention; identifies best practices for replication; and develops policies to support the widespread implementation of effective practices.

Here are our thoughts on some of the components of a possible approach to narrowing the gap:

Research

- Work that merely tells us that the gap in achievement and participation continues is data monitoring, not research. As mentioned above, research should focus on variables that can be changed, such as teacher behaviors or teacher knowledge, rather than on variables such as students' socioeconomic status, which are difficult or impossible to change.
- Much can be learned from the body of research that documents factors that have contributed to the closing of the gap between the late 1970s and 1990. We feel that further research on the effectiveness of these factors in reducing the gap is merited. Of special interest are school and classroom factors that are manipulable via changes in policy and/or practice. These factors can be studied both as individual research studies and also as part of integrated research agendas.

Evaluation and Measurement

- Evaluations should consider the impact of interventions on different subgroups of students ("what works for whom"). This requires the collection of demographic and other data on students to determine whether specific strategies are equally effective across subgroups or if they are more or less effective for students at, for example, different achievement levels, or from different racial/ethnic groups or socioeconomic status levels.
- Evaluations need to be designed so that they look not only at whether or not change occurs but **why** change does or does not occur. This may involve carrying out more evaluations that use the following model:

Program participation

Intermediate effects

Long term effects/student data for different demographic groups

- Program evaluations should begin close to the inception of the program rather than several years into the program.
- The discussion of what are appropriate measures of the achievement gap should be continued. Standardized test scores are but one measure, although they have the most credibility with the most people. In the absence of other measures of achievement,

standardized test scores should continue to be used until more appropriate measures can be developed, validated, and gain wider acceptance.

Best Practice

Peter Drucker once said, "A leader is someone who can make complex ideas understandable." The Ohio Board of Regents/Ohio Department of Education need collectively to be that leader.

- The term "best practice" must be defined, preferably in terms of student outcomes. Best practices should be *research* and *evaluation* based, rather than based on perceptions of what works for a particular teacher or group of teachers with a particular group of students.
- We need better and more effective vehicles to convey research- and evaluation-based information about "best practice" to principals and teachers. This may involve the funding of "translator" projects where people who conduct and understand research can rewrite and summarize research results in formats that are immediately useful to practitioners. This is particularly important for research on assessment and on teaching strategies. And, of course, the resulting products should be widely disseminated. Another way to ensure widespread use of best practices is through the funding of replication sites of successful pilot projects. These replication sites might vary in terms of target population and other factors. Evaluation data from such sites could contribute to our knowledge of "what works for whom."

Research, measurement and evaluation, and best practice should not always be considered discrete areas. They can be combined and integrated in projects that seek to improve education systems by:

1. Incorporating the changes supported by research;
2. Collecting appropriately disaggregated data on the effects of these practices (measurement and evaluation); and
3. Documenting the implementation of the changes so that they can be easily replicated (best practices).

In closing, it is important to remember that there is cause for hope. Our NSF-funded study of highly effective and typical elementary schools serving predominantly minority, predominantly low-income students, has found that students in predominantly low-income schools can achieve at levels comparable to students in schools with few low-income students. The challenge is to ensure that they do.

Presenter's Summary: Racial and Ethnic Achievement Gap Trends

Jaekyung Lee, PhD
State University of New York-Buffalo

1. Did African American and Hispanic achievement gaps in reading and math narrow or widen over the past 30 years?
2. What factors contributed to the narrowing or widening of racial and ethnic achievement gaps?

Racial and ethnic achievement gaps narrowed substantially in the 1970s and 1980s. As some of the gaps widened in the 1990s, there were some setbacks in the progress the nation made toward racial and ethnic equity. The conventional measures of socio-economic and family conditions, youth culture and student behavior, and schooling conditions and practices might account for some of the achievement gap trends for a limited time period or for a particular racial and ethnic group. However, they do not fully capture the variations.

The NAEP African American-White achievement gap trends show that the gaps fell by 20 to 40 percent during the last three decades. But a closer look at the trends reveal that the gaps narrowed mostly in the 70s and early 80s, and widened in the late 80s and 90s. In contrast, the Hispanic-White achievement gap trends show that the gaps narrowed much less over the past 30 years and the changes were not consistent across age groups and subjects. But we also find that progress in narrowing the achievement gaps stalled in the 90s. Obviously, Hispanic achievement gaps did not follow the same trends as African American gaps and the factors that explain one group's gap do not seem to equally contribute to another group's gap.

During the last three decades, we have seen a shift of our educational standards. During the 1970s and 80s when minimum competency tests prevailed, low-performing minority students, particularly African Americans, tended to make the most progress while high-performing White students' achievement remained flat. In contrast, in the late 80s and 90s, when many states adopted standards-based curriculum and assessment that emphasized challenging content and higher order thinking skills, high-performing White students tended to gain more whereas low-performing minority students hardly made progress.

Our goal is to improve academic excellence and equity at the same time, which is particularly challenging in an increasingly diverse student population. There is some tension between addressing inequity and improving excellence. We need to be more realistic about what can be done by schools as the influences come from many sources beyond schools' control. We also need to set realistic timelines, i.e., how soon schools can narrow the achievement gap given limited resources and capacity.

Last but not least, it is important to do our job in the right ways, paying attention to process as well as outcome. Simply narrowing the achievement gaps cannot be called a success unless its process is reciprocal and inclusive. Reciprocity means that evey group is making progress and one group's progress benefits others. In highly segregated schools, there will be no racial gap for them to address in the first place. Inclusiveness means that all students are

counted in schools' accountability. If failing minority students are retained or have dropped out of schools, achievement gaps reported without them will be misleading.

Chapter Four
STATE LEVEL INITIATIVES

Presenters	*Dwight Pearson* *Norman L. Webb*
Facilitator	*Pamela Young*
Respondent	*Sylvester Small*
Recorder	*Terry McCollum*

Recorder's Summary
Terry McCollum
Discovery Center, Miami University

The State Level Initiatives session was scheduled as Session II for the conference, but due to conflicting schedules State Level Initiatives ran as Session III. Dr. Pam Young, Associate Superintendent for the Ohio Department of Education, opened the session as the facilitator. She introduced the first presenter, Dr. Dwight Pearson, Section Chief for Closing the Achievement Gap in the Division of School Improvement at the North Carolina Department of Public Instruction. The second presenter was Dr. Norman Webb, Senior Research Scientist for the Wisconsin Center for Education Research at the University of Wisconsin-Madison. A discussion period followed the two presentations.

Summary of Presentations

Dr. Dwight Pearson

Dr. Dwight Pearson focused on North Carolina's approaches for closing the achievement gap. He reported that North Carolina's program focused on factors that can be changed rather than those that cannot be affected (e.g., socioeconomic status). Factors that can be manipulated include program participation (e.g., honors vs. remedial), group achievement, dropout rate by ethnic/racial group, suspensions by ethnic/racial group, and alternative school placement as disproportionately minority and male.

Dr. Pearson outlined several objectives for his presentation. First, he offered the definition for "achievement gap" used in North Carolina. Without a clear and shared definition of the achievement gap, he said the group could not find a clear and shared solution. Also, Dr. Pearson said North Carolina instituted state-level initiatives to eliminate educational disparities, involving multiple "players." He stressed that research must focus on school-based strategies found to be more effective in promoting high achievement among minority students. The current focus in North Carolina is primarily on ethnicity.

In order to meet these objectives, Dr. Pearson discussed the major challenges facing public education in North Carolina. The challenges include the achievement gap, in addition to a growing population of students speaking limited English (a new problem in southern states), increasing segregation between schools and within schools, and economic restructuring with prosperous and growing urban areas, but declining conditions in rural areas.

Defining the Achievement Gap in North Carolina

Closing the achievement gap is one of the challenges faced by North Carolina public education and a clear definition is required in order to address it. Pearson stated that an "achievement gap is a persistent, pervasive, and significant disparity in educational achievement and attainment among groups of students as determined by a standardized measure." These measures include ethnicity, socio-economic status (as measured by Title 1), gender, limited English proficiency, disability status, and migrant status. Currently, North Carolina's focus is primarily on ethnicity. Pearson's definition was well received by conference participants who believed it was a significant contribution to the conference. A clear definition permits deeper understanding and acceptance and leads to effective solutions.

Dr. Pearson stressed that the achievement gap should not be closed at low levels; it must be closed at high levels. Without this accomplishment, a gap could be closed or narrowed, yet students would not achieve at levels needed to participate effectively in society. Since students begin at different levels, they need to move at different levels or rates in order to close the achievement gap over time. Current state data indicate that North Carolina is currently on track to accomplish this over the next decade. However, if only state data are used, they can be misleading. All North Carolina schools are not closing the achievement gap. In fact, the gap is getting wider in some schools.

Dr. Pearson emphasized the need to maximize the potential of all students by measuring achievement among groups and against a universal standard, that is, close the achievement gap while increasing overall performance of all students. The level of performance among lower achieving students must be accelerated, while simultaneously the level of performance among higher performing students must be increased. Projection tracks for each group should be established and performance should be measured over time. Only then will we ensure that students are progressing as required for success.

Current Status of Minority Student Achievement in North Carolina

There are many factors in North Carolina that impact minority students' achievement. Program participation results in achievement gaps among students when all students do not consistently take high-level courses. Other factors include group achievement, dropouts (affected by students not succeeding), suspensions, and alternative school placement (often a result of students not behaving or succeeding). He also noted that students do not start school at the same level of preparedness, so gaps exist from the very beginning.

Dr. Pearson used a series of graphs to show student achievement by status in North Carolina. The data demonstrated

that all groups (American Indians, Asians, African Americans, Hispanic and European Americans) have improved over time, but not at the same rate and not to the same degree: the gaps in achievement persist.

How North Carolina Addresses the Achievement Gap

Pearson said that addressing the achievement gap in North Carolina requires a comprehensive approach with the student at the center of everything that is done. After all, the student is the most important element of the achievement gap. Parents, public schools, communities, governments, institutions of higher education, and business and industries must all be involved in the effort to ensure all students are properly served.

As previously mentioned, there must be many partners involved in multiple efforts if the gap is to be closed. In North Carolina there is broad state government involvement. Governor's Office initiatives include the First in America Report (North Carolina Research Council), Education Task Force, and reduction in class size and preschool programs (i.e., More at Four and Smart Start). The North Carolina General Assembly piloted the use of ethnic data in measuring student achievement in 201 schools. The pilot found a modest achievement gain, but no significant change in achievement gap. This year every North Carolina school is required to do this in an effort to close achievement gaps.

In response, the State Board of Education established a Closing the Achievement Gap Section. This section publishes research and includes state assistance teams that provide technical assistance to schools. In addition, the Board intends to hold an annual conference focusing on the improvement of minority and at-risk student achievement. Other initiatives include the Early Intervention Project, Advanced Placement Project, Statewide Staff Development Program, and the Historically Minority Colleges and Universities Partnership.

Strategies That Work: Why Some Schools in North Carolina are Closing the Achievement Gap

Pearson concluded in his presentation with a list of strategies that are working in North Carolina toward closing the achievement gaps. Some are not surprising as they are common in other places that strive to close the gaps. The strategies include the following:

- High expectations and high achievement standards for all students.
- Focused instruction that challenges all students to develop high-level critical thinking skills.
- Periodic assessment and disaggregated data.
- Targeted use of technology as a teaching tool across content areas.
- Individualized tutoring programs for students experiencing academic difficulty.
- Small group programs for low-achieving students.
- Parent involvement as partners in the educational process.
- Strong supportive school-based and district-level leadership that supports

teacher innovation, while holding teachers accountable for student achievement.
- Ongoing professional development programs for teachers with a focus on improving instructional outcomes for all learners.

Dr. Norman Webb

Dr. Norman Webb used numerous transparencies of graphs as he spoke on the Complexity of the Ethnic Group Mathematics Achievement Gap. Dr. Webb currently works with teams of teachers in six Milwaukee schools to foster the use of data to improve instruction and student achievement. His presentation focused on the following subjects:

1. Comparison of Statewide Systemic Initiative (SSI) and non-SSI states with regard to Grade 4 to Grade 8 growths on NAEP mathematics composite and subtopics, 1992-2000.
2. Variation of achievement by grade level and year on Texas Assessment of Academic Skills (TAAS), 1994-2000.
3. Contrast between two states in reducing the achievement gap.
4. Implications.

Dr. Webb described a study comparing math achievement growth using NAEP among several subgroups (European American, African American, Hispanic) in 14 SSI states and 13 non-SSI states. The study, looking at achievement growth from Grade 4 to Grade 8, indicated that growth in math achievement by European American students surpassed achievement growth by African American and Hispanic students from 1992 to 1996. In the SSI states, African American students almost gained the same as European American students, but they started lower and continued to be behind in 1996. The gap did not narrow.

Between 1992 and 1996 the gap between European American and African American students in math achievement growth from Grade 4 to Grade 8 declined in two subtopics in SSI states. In the subtopics "number and number operations" and "algebra," African American students gained more than European American students, thus reducing the achievement gaps in those subtopics. Further, this trend also was apparent in the subtopics "measurement" and "geometry." A possible hypothesis for these trends is that these subtopics may have received more emphasis during the SSI efforts. For example, one SSI initiative focused specifically on providing algebra for all students. Unfortunately, the decline in the gap did not continue after the SSIs ended. Between 1996 and 2000 the gap in math achievement growth between African American and European American students from Grade 4 to Grade 8 increased in all subtopics for both SSI and non-SSI states. When the SSI funding ended, it seemed that the positive effects did as well.

From 1994 to 2000 the gap between European American and African American students in annual math achievement growth, as measured by TAAS, varied by grade and year. Using Rob Meyers' data of variation between African American and European American students by grade level, Dr. Webb found there was a large gap between African American and European American students at the fourth grade level on what students gained from the previous year. However, at the eighth grade level there was no difference

between the two groups in the amount gained. In addition, there was less variation in the gap between Hispanic and European American students in yearly gains over the same period. This surprised the researchers since the Hispanic population increased greatly during the period while the African American populations remained essentially constant. Dr. Webb reported more information was needed to interpret and explain these findings.

Dr. Webb contrasted two states (New York and Kentucky) in their efforts to reduce the achievement gap. In New York, a study looked at the grade level math achievement gap between European American and African American students from 1992 to 2000. There was a decrease in the achievement difference between European American and African Americans students in Grade 8, but the difference remained much the same in Grade 4 (for NAEP data). There were similar results for Hispanic students, although not as great as for African American students.

Kentucky did not produce the same results. There, the grade level math achievement gap between European American and African American students increased from 1992 to 2000. Despite considerable effort and funding, Kentucky was unable to narrow the achievement gap between subgroups of students. Dr. Webb posed the critical question: "What is New York doing that Kentucky is not doing?"

Dr. Webb presented the following implications for consideration:

1. Achievement gaps need to be considered by subtopics and by grade.
2. Some evidence exists of a decline in the achievement gap that may be related to effect and philosophy of the system.
3. Without more definitive measures of practices, it is very difficult to identify reasons or variables associated with the variation in the achievement gap.

Dr. Webb concluded with the following summary: "So, we can say there has been improvement, but we can't say why."

Summary of Discussion

Valdez: What is North Carolina's goal in terms of time to close the gap?

Pearson: The Department of Public Instruction was reorganized to focus on the achievement gaps. The target is eight years. We need to focus on all subgroups within the population (defined by where they are, what level of proficiency). What some schools are doing is focusing on students who are close to level 3 (near the bar) and disregarding the others. That is one reason why we are now rewarding groups for improving education for students in the lower level as well. In North Carolina there are additional things in place to help children who are at risk. By engaging universities as part of the process, we believe we can address capacity.

Valdez: North Carolina is also known for its effective use of technology. How much do you see technology helping in the process in the future?

Pearson: Technology is a very critical factor, because it is used as an instructional tool, disseminating best practice to other schools, and providing technical assistance as needed. Those

populations that are successful are using technology across the content areas on a regular basis. Therefore, incorporating technology and tech support is an important part of what has been defined as "best practice."

Hiller: Could you give more detail about the organization and work of the Advisory Commission?

Pearson: The Commission is a permanent commission and advises the state superintendent and the State Board of Education. Some of the Commission's recommendations pertained to the universities and colleges, their teacher preparation programs, and how well they were or were not preparing teachers for diverse classrooms. Teacher education is a factor in raising student achievement. New teachers are not equipped necessarily to work with diverse student groups. Special education is another issue. Too many minority students are assigned to it. Once they are assigned, they tend to remain there. African American students make up 31 percent of the state (North Carolina) population, but 62 percent of the students assigned to special education. Just 10 percent of African American students are in advanced placement or gifted programs. The state developed a public relations campaign to inform the public of these issues. The Commission also recommended that the state engage in a study to look at the contributions of African Americans and Native Americans over time. Hispanics weren't included because they represent a new group to the state.

Lee: Could you comment on gains in North Carolina among and between European American and African American students?

Pearson: If you look at scaled scores in North Carolina, the gap increases at the state level, i.e., if we look at the same cohort over time. Student scaled scores increased from Grades 3 to 6, even when students came in at a lower category, yet the students were performing at the same category level. (Dr. Pearson reported that they will look at this more closely.)

Lee: Be careful in looking at scores over time because it is more difficult for them to make gains than it is to make improvement over time.

Webb: Although we may consider that there may be a regression toward the mean, we realize that we should gather data from more than just two points to avoid that impact. We must also consider a ceiling effect. In the case of the TAAS data, it is important to consider both psychometrics and issues regarding program.

Pearson: In North Carolina researchers did some work in one school and found that with African American students in that particular school, math scores increased by 15 percentage points, while European American students improved far less. However, they noted that the European American students' scores were already high. (Dr. Pearson noted that these data were analyzed for only one year.)

Singham: There are two gaps. One is the overall underachievement gap: between where students are and where they should be. The other is the gap between ethnic groups. We need to solve both political and educational problems. (He described a long-term study by Shoenfeld that showed that focus on increasing achievement overall will also narrow an ethnic achievement gap. Singham closed by

stressing that it was not sufficient to look at the gains, we must look at whether students are achieving at levels where they should be.)

Pearson: When we talk about closing the achievement gap and closing the differences only between two ethnic groups, we are missing the boat. In North Carolina we are trying to focus on all students performing at the same rate at which they are tested. We could close the gap by reducing the level of the European American achievement. However, we must be clear on what we want to achieve. It is critical that all groups close gaps at high levels. If you look at the NAEP data of European American students over time, it appears a bit stagnant, and African American student improvement gives a false security of closing the gap. We need to close the gaps at high levels so that all children can participate and be effective citizens in society. Every state in the union should look for every group to perform better, not merely to close the gap.

Webb: What you identified seems to be what Susan Fuhrman discussed at lunch regarding comparisons in "gain" and "status." The challenge is that we must report information on multiple variables. Focusing on raising scores for all and reducing the achievement gap might work in some places, but not others.

Lasley: What are the cost factors and projected impact of each of your initiatives? What is North Carolina doing to avoid re-segregation?

Pearson: In North Carolina we are trying to bring this to the forefront again. Reality is that there is a tremendous amount of local control. Some districts have gone back to neighborhood schools, and hence re-segregation. I am doing a study to determine the number of schools that are in integrated communities. Other than doing that, nothing is going on, except bringing it to the attention of the state's citizens. Also, trying to help districts to understand that segregated schools do not form good, sound educational policies. Students need diverse experiences. As far as the cost factors go, I don't think there has been a cost-out.

Henkel: I appreciate the variety of programs in North Carolina. However, education funding in Ohio is in perpetual chaos. Ohio is now 43rd in school funding. I was surprised some years ago when I discovered that North Carolina was number one in educational funding. Do you have suggestions for Ohio?

Pearson: North Carolina started placing more value on federally funded education in the mid 1980s shortly after the *Nation at Risk* report. North Carolina passed a Basic Education Act in 1985 to give all students in the state access to a basic education. Jim Hunt, our prior innovative governor, saw the relationship between better schooling/education and other economic development. That is what sparked action. Historically, there has not always been support for ethnic minorities.

Tinker: Dr. Webb, have you looked at the NAEP science data?

Webb: No. Unlike math data, state level science data were not available until the mid-1990s. There are only two data points for science at this time.

Ray: In the early years, what did you do with disaggregating data that you would not do now?

Pearson: That started in 1992-93. It wasn't necessarily for public use as it is now; the data were used in published reports. Had there been more emphasis on using data to impact change, we would be further along in improving student achievement. We were limited to the district level. Now data are reported at the building level and could be reported at the classroom level.

Comfort: How do regional assistance centers assist the school districts in the state?

Pearson: North Carolina has been divided into 12 regions, each served by HBCUs (Historically Black Colleges and Universities). They provide assistance to the local school districts through the University of North Carolina at Chapel Hill. They focus on assisting districts (at their requests) in the area of achievement gaps. They are looking at the whole staff development piece (Center for School Leadership). Successful schools use disaggregated data to drive instruction, have a standard course of study, and have testing aligned with that course of study. The assistance teams help districts to do these things.

Henkel: (Asked Webb a question about Wisconsin's teacher quality and credentialing system.)

Webb: Wisconsin has a different means of teacher licensure. The state is not as diverse as Ohio. Milwaukee and Beloit have the largest populations of students of color. There are a lot of policies that exist. One state policy ensures that teachers are trained regarding diversity and standards. There are many areas where Wisconsin needs to improve, including the achievement gap. Most of the graduates are going to the non-diverse cities and outside of the state rather than to Milwaukee or Beloit.

VanderPutten: In North Carolina, are the graduates of the better universities going to your areas of need – rural as well as urban?

Pearson: It is very difficult to recruit graduates out of our higher education institutions to go to rural areas. Teachers in the high minority areas tend not to be fully certified. North Carolina provides a lateral entry program, which permits uncertified teachers to become certified in five years.

Kahle: Consider the data from Kentucky and New York. What's your opinion of the Regents' testing for all children in New York, which it previously had not done?

Webb: New York introduced standards and instituted Regents' exams for all students, but some of the same things are happening in Kentucky. Now we are trying to put together state profiles (e.g., school performance) to see different trends over time in states regarding gains. You can clearly see that some states—North Carolina, for instance—have consistently gained over time. Some, like California, have not gained much at all, while others have gained and then slowed down. We are trying to develop ways of looking more closely at the states to determine what may be happening. It is probably dependent upon programs and other things. There are some qualitative and quantitative differences between states – what some states are doing that others are not.

Conclusion

Dr. Sylvester Small, Superintendent of Akron City Schools and respondent for this session, expressed his appreciation that North Carolina has provided a definition of "achievement gap" and has tried to implement some things that conference participants have discussed. He noted that North Carolina was employing a full-court press with multiple partners engaged in the efforts, including the governor, economic restructuring, and other programs. Dr. Small summarized the following challenges identified during the session.

- We need to identify the type of data needed to study the achievement gaps. The session provided some evidence for this.
- A gap must be closed at high levels, not at low levels.
- State data can be misleading; you also must consider district and individual school data.
- All students in a school are not at the same place. As you look at individual student needs, you must realize that work to improve achievement must be undertaken at different levels.
- We must use data to change classroom practices.
- States have different measures, so how do we ensure that *No Child is Left Behind*?
- Achievement gains must be sustained.
- How do we ensure that all students get value-added education? First, we must find out where students are. We don't have the tools to measure the value-added.
- Will North Carolina reach its mandated goal? How will North Carolina effectively use technology to improve student achievement?
- In Ohio we tend to look only at the gap. Should we look at the gap, gain, or both?
- We need to focus on the quality of teacher professional development.

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Presenter's Summary: Programs and Strategies to Close the Achievement Gap In North Carolina

Dwight Pearson, PhD
North Carolina Department of Public Instruction

Introduction

Historically, North Carolina and the nation have experienced an achievement gap among various populations of public school students. The achievement of minority and at-risk students continues to be an important issue at the local, state, and national levels.

Maximizing the academic potential of all students is a major priority in the state of North Carolina. This is evidenced by changes in legislation, a number of state-level initiatives and the recent modification of the ABCs Accountability Model to include a closing the achievement gap component.

State Superintendent Mike Ward has issued a call to all stakeholders in North Carolina to find the will to close achievement gaps between students and to challenge all students to reach higher standards. Answering the call will take the best efforts of school administrators, teachers, parents, students, communities, business/industry, and colleges/universities to ensure that all students succeed in North Carolina's public schools. Successfully meeting this challenge is essential to North Carolina's chances of being one of the states, that will lead the nation in school improvement by the end of this decade (Thompson & O'Quinn, 2001).

Closing the achievement gap is a major initiative that complements other education initiatives in North Carolina designed to improve student achievement such as the ABCs Accountability Model, the Student Accountability Standards, and more recently, Governor Easley's More-at-Four Preschool Program. Following is a summary of major programs, strategies, and legislative changes designed specifically to address the achievement gap in North Carolina.

The Advisory Commission on Raising Achievement and Closing Gaps

The Advisory Commission on Raising Achievement and Closing Gaps was appointed by the State Board of Education in the summer of 2000. As a permanent commission, it is charged with advising the State Board of Education, the State Superintendent and local school systems on ways to close the number of gaps that exist in student achievement outcomes and student participation while continuing to push for higher achievement overall.

Chaired by a former school superintendent, the Commission's members come from all across the state of North Carolina and bring a wide range of experiences and involvement in the education arena. Teachers, school administrators, parents, superintendents, directors, school board members, and others close to the schooling process are included. A school of education dean from a public university, an attorney who specializes in school law, a researcher/

consultant, representatives of organizations that advocate for minority groups, and a newspaper editor add to the diversity of the Commission.

The initial report of the Commission to the State Board of Education was issued in December of 2001. The report included eleven recommendations and addressed issues related to:

- Teacher preparation and support
- The underachieving student
- Home and community
- Legislation and policy
- Minority student participation and exclusion

The full report of the North Carolina Commission on Raising Achievement and Closing Gaps is available on the Closing the Gap web page at www.dpi.state.nc.us.

Closing the Achievement Gap Section

Organized as a unit within the Division of School Improvement, North Carolina's Closing the Achievement Gap Section addresses school-related variables that adversely affect educational outcomes for minority and at-risk students. The focus of the Section is on content-specific and student engagement strategies, teacher disposition, diversity/multicultural and related issues.

The Section works in collaboration with a variety of stakeholders to assist schools and school systems in identifying and developing programs and strategies to close the achievement gap. This is accomplished through creating awareness, providing technical assistance, and disseminating research findings on best practices for improving achievement among minority and at-risk students. Technical assistance is provided in the areas of:

- Curriculum and instruction
- Test analysis/data disaggregation
- School improvement plans (gap closing components)
- Parent and community involvement
- Identification of local issues
- Staff development/training

Historically Minority Colleges and Universities Consortium For Closing Achievement Gaps

The Historically Minority Colleges and Universities consortium (HMCU) is composed of twelve public and private colleges and universities that have traditionally served African American and Native American students in North Carolina. The purpose of the HMCU consortium is to work with schools and communities to close the achievement gap. Work of the consortium is focused through:

- Establishing Closing the Achievement Gap Centers on the campuses of member institutions.
- Identifying factors affecting the academic performance of minority students.
- Developing strategies to address factors resulting in negative outcomes for minority students.
- Expanding partnerships and providing technical assistance to public schools, families and community organizations.

School Districts Piloting the Use of Disaggregated Ethnic Data to Address the Achievement Gap

During the 2001-02 school year, the North Carolina State Board of Education established a pilot program to determine if revisions in the ABCs Accountability Model were "likely to result in more students demonstrating mastery of grade level subject matter and skills (section 8.36, 1999 State Budget Bill). The object of the study was to determine if changes in the accountability systems would result in an increase in the percent of students performing at or above grade level while at the same time reducing the disparity between population groups.

Five school districts with a total of 212 schools representative of the state's geographical and demographic characteristics participated in the study. Based on analyses of the 2000-01 ABCs data for these schools, 67, or 31.6 percent, met the goals of the pilot program. There was evidence of increases in proficiency, success at meeting ABCs growth standards, and a modest closing of the achievement gap.

Local Community Task Forces on Closing the Achievement Gap

Section 8.28 (d) of HB 1840 requires the State Board of Education to develop guidelines to enable the formation of a local task force in each school administrative unit in North Carolina. The purpose of the task force is to advise and work with the local board of education and administration on closing the gap in academic achievement and on developing a collaborative plan for achieving that goal.

A number of school systems in the state have established a local task force, although they are not required to do so by state policy. However, if, a board of education approves the establishment of a local task force, state policy does require that it operate under the auspices of the Office of the Superintendent.

Legislation

Legislation passed during the 2001 session of the North Carolina General Assembly requires the State Board of Education to modify the ABCs Accountability Model to include a closing the achievement gap component. The legislation states "beginning school year 2002-03, the state Board shall include a "closing the achievement gap" component in its measurement of the educational growth in student performance for each school. The 'closing the achievement gap' component shall measure and compare the performance of each subgroup in a school's population to ensure that all subgroups as identified by the State Board are meeting State Standards" [SB1005, Section 28.30(a) (G.S. 115c-105.35)].

Professional Development for Public School Employees

The 2001 North Carolina General Assembly revised Section 31.4.(a) of G.S. 115C-12(26) which addresses the responsibilities of the State Board of Education relative to the professional development for public school educators. The intent of the legislation is to improve public schools in North Carolina significantly by providing field-tested professional development programs and strategies that are both research-based and data-driven. Specifically, Section 31.4.(a) of G.S. 115C-12(26) was rewritten as

follows:

> "The State Board of Education shall identify State and local needs for professional development for professional public school employees based upon the State's educational priorities for improving student achievement. The State Board also shall recommend strategies for addressing these needs. The strategies must be research-based, proven in practice, and designed for data-driven evaluation."

In order to meet this requirement, the State Board entered a collaborative arrangement with the North Carolina Center for School Leadership Development. Specifically, the Center for School Leadership Development directed its resources to assist the State Board of Education and the Department of Public Instruction in their efforts to address educational disparities that negatively impact ethnic minority and other students at risk of academic failure.

In collaboration with the Department of Public Instruction, the Center instituted a comprehensive school-level program designed to improve educational practice, while eliminating the achievement gap. The Center's program was designed based on an equality-based school improvement model previously introduced by the Closing the Achievement Gap Section of the Department of Public Instruction. The program is currently being piloted in 18 schools located throughout the state. The effectiveness of the program is to be evaluated on the basis of student performance on standardized assessments (e.g., end-of-grade tests, end-of-course test, SAT data) and other indicators of school success (e.g., dropout rates, enrollment in AP/Honors classes) across time.

Addressing the Disproportionate Placement of Minority Students in Special Education

The Exceptional Children Division of the North Carolina Department of Public Instruction has implemented several activities to address the issue of the disproportionate representation of minority students assigned to special education categories. These include:

- The continuous monitoring of Local Education Agencies (LEAs) to identify problems related to the excess of specific demographic groups in special education. Where disproportionality is found to exist, LEAs must identify in their Continuous Improvement Plan how this condition will be alleviated.
- The Exceptional Children Division has a committee entitled Committee on Overrepresentation of Minorities in Special Education. This committee has met four times to examine North Carolina practices on disproportionality, with an effort to design activities and strategies to help school systems deal with issues in this area.
- Information regarding the magnitude of the problem and some evidenced-based practices that reduce overrepresentation was presented by the Committee on Overrepresentation of Minorities in Special Education at the 2002 Closing

the Achievement Gap Conference in Greensboro.

Project Bright IDEA (Nurturing Potential in K-2 At-Risk Ethnic Minority Children

Project Bright IDEA is a collaborative effort between the North Carolina Department of Public Instruction and Duke University. The goal of this collaborative is to develop a process to equip elementary teachers with the talents and tools necessary for the early identification of minority and/or other students for participation in academically/ intellectual gifted (AIG) programs. The program focuses on the creation of an infrastructure designed not to disadvantage minority and low-income students for participation in AIG programs. This is to be accomplished through an emphasis on differentiated programming, instructional delivery and curricular design that engages potentially gifted students from underrepresented groups.

Implemented as a pilot in six North Carolina elementary schools in 2001-02, the initial emphasis of the program was to introduce a thinking skills program component in kindergarten classes that ultimately results in the creation of a fully functioning K-2 academic model to improve student achievement. Schools participating in the pilot include:

- Thomasville Primary, Thomasville City Schools
- Sherwood Elementary, Gaston County Schools
- Bruce Drysdale Elementary, Henderson County Schools
- Sunset Park Elementary, New Hanover County Schools
- North Abemarle Elementary, Stanley County Schools
- Wilburn Year Round Elementary, Wake County Schools

Closing the Achievement Gap Website

The Closing the Achievement Gap Website was one of the first initiatives undertaken by the North Carolina Department of Public Instruction to address the Achievement Gap. Designed to provide information to professional educators and the general public, the site connects to both state and national databases. It can be found at www.dpi.state.nc.us/closingthegap.

Closing the Achievement Gap Conference

This annual meeting is among the major conferences in the nation designed to provide educators with strategies to improve achievement among minority and at-risk students. More than 3,000 educators and others attended the 2002 conference.

Presenter's Summary: The Complexity of the Ethnic Group Mathematics Achievement Gap

Norman L. Webb, PhD
University of Wisconsin-Madison

An important goal of the National Science Foundation's (NSF) Statewide Systemic Initiatives (SSI) program over its decade of operation, beginning in 1992, was to improve the mathematics and science achievement of all students. Underlying this goal was a major effort to accelerate the achievement of historically underserved students so that the achievement of students that the system serves best and of these students is more indistinguishable. Over the decade, 26 jurisdictions, including 25 states and Puerto Rico, were awarded sizeable grants for up to five years. Four states had their funding withdrawn before completing the five years and eight jurisdictions had their funding continued for another five years.

With funding from NSF for four years, we have been analyzing mathematics data from the State National Assessment of Educational Progress (NAEP) and from state assessment data to determine, and better reveal, whether the SSI program had an impact on student achievement. Although a few states, including Ohio, conducted studies of the impact of the SSI project in the state, most did not. As a result, we had to depend on available data from the State NAEP and from state assessments that could be used to contrast participating states with those that did not participate. We did not have access to data on the degree of participation in SSI activities, or the distribution of participation within each state. We were able to analyze differential achievement by groups of students that revealed interesting patterns related to the achievement gap question. In general, we found that by disaggregating the NAEP composite mathematics scores by subtopics, the differences in performance by groups varied. In our analysis of the Texas Assessment of Academic Skills (TAAS) in mathematics from 1993 through 2000, the differences in performance between White students and African American students varied by grade and by year. Both of these analyses suggest that to fully understand differences in performance by groups and the effect of the interventions on these differences requires addressing the parts and pieces. When this is done, results for states and districts participating in the Systemic Initiatives program suggest, when compared to other states and school districts, that these initiatives may have had some impact.

Growth by White students in composite mathematics NAEP scores from Grade 4 to Grade 8 exceeded that by African American students and Hispanic students between 1992 and 1996. The achievement gains of African American students and Hispanic students, on the average, were about six to nine scale points less than those of White students. Between 1996 and 2000, for African American students and Hispanic students from Grade 4 to Grade 8, achievement gains were about four to eight points less than the gains of White students. Thus, not only did African American students and Hispanic students in Grade 4 show lower achievement than White students over the years, but their gain in achievement was below that of White students. This conclusion was based on data of 14 SSI states and 13 non-SSI states,

all of the states that had participated in the three State NAEP administrations—1992, 1996, and 2000. In the first four years, the difference in the achievement gains by White students compared to African American students was significantly lower for SSI states than for non-SSI states. Between 1996 and 2000, the SSI states did not maintain this advantage and actually had a larger difference in gain scores between White students and African American students than did the non-SSI states.

However, when the data were disaggregated by mathematical subtopics, some interesting results were revealed. Between 1992 and 1996, coinciding with the initial funding period for the SSIs, African American students from SSI states gained more than White students in these states in two subtopics—1) Number and Operations and 2) Algebra and Functions. The White students in non-SSI states gained slightly more than African American students over this time period and for these subtopics. Over the next four years, 1996 to 2000, White students resumed gaining more in achievement than African American students in SSI states and continued in non-SSI states. We are able only to speculate about what may have caused African American students to gain more than White students in the two subtopics from 1992 to 1996. One possible explanation is that these two subtopics were given the greatest attention among the subtopics and this resulted in higher gains by African American students.

Another pattern emerged when, using the TAAS data from 1993 through 2000, we looked at the differences in scores between White students and African American students. We computed the annual gains from one grade to the next (from Grade 3 to Grade 4, Grade 4 to Grade 5, etc.) and computed the effect size for being African American compared to being White. Considering the gain from Grade 3 to Grade 4, African American students' scores remained two points below the scores of the White students over five years. From 1999 to 2000, the difference declined to only one point. (Here, one point is essentially the equivalent of one point on the Texas Learning Index (TLI).) At Grade 8, the effect size attributed to being African American at Grade 8 in 1995 was nearly the same as for Grade 4 but then declined to zero for 1997, 1998, and 1999. In these three years, Grade 8 African American students had gained as much as White students from their performance in Grade 7. These data indicate that African American students gained less in the lower grades when compared to White students, but that in the higher grades the gains had greater parity. These data would support greater efforts at intervention in the lower grades. The effect of being Hispanic compared to White was different from that for African American students. After the first year, Hispanic students and White students gained about the same at all grade levels. Although we did not have enough data to explain the cause for the different data patterns for African American students across the grades and the differences between these students and Hispanic students, the analysis at this level does point to some interesting differences.

Within SSI states, we found considerable variation in achievement patterns related to the differences in performance by racial/ethnic groups. These differences clearly suggest, as most people have recognized, that other factors contributed to student achievement than a state's participation in the Systemic Initiatives program. What the

difference in performance suggests is that some states have been more successful than others in reducing the achievement gap and that these states invite further investigation. For example, in New York, African American students' achievement had steadily gained on White student achievement for the two most recent NAEP administrations—1996 and 2000. This increase was experienced in all subtopics. These results did not apply to Grade 4. The achievement gap between White students and Hispanic students in Grade 8 narrowed, primarily in 2000. In contrast, in Kentucky the difference in Grade 8 achievement between African American students and White students remained fairly constant, while at Grade 4 the gap increased.

In our analysis of NAEP and TAAS data in studying the Statewide Systemic Initiatives, we found evidence of a decrease in the gap between the performance of White students and that of African American students. However, this evidence was found in specific mathematical subtopics or at specific grades in certain years. Because these bits of evidence are based on sizeable groups of students, we do not think they are anomalies. A major emphasis of the SSI program was improving the achievement of all students in general, and those historically underserved in particular. Considering that the SSIs as a group put greater emphasis on traditional content, i.e., numbers and algebra, this could explain the change in NAEP results between 1992 and 1996. However, we do not have detailed information on what specific topics SSIs emphasized, so attributing a specific cause to the finding is only speculative. In the TAAS data, there clearly was a different pattern in performance between Hispanic students and African American students when compared to White students. These patterns differed by grade level and school year. The differences again point to probable curriculum differences—this time variation among grades. Finally, some states have done better than other states in reducing the achievement gap between groups, as indicated by State NAEP data. We believe understanding these differences can help in considering different reform and accountability initiatives.

In conclusion, the disaggregation of data by mathematical subtopics and grade level resulted in some very interesting findings, which are masked by reporting only averages. We also believe in the importance of considering gain scores by the same cohort of students. Finally, we believe that it is important to track program differences, or the independent variable, to gain sufficient information to help explain interesting findings.

Chapter Five
LUNCH PRESENTATION

Presenter **Susan Fuhrman**

Recorder's Summary
Janelle Gohn
Cincinnati State Technical & Community College

Introduction

At the Thursday luncheon, Dr. Susan Tave Zelman, Superintendent of Public Instruction for the State of Ohio, introduced Dr. Susan Fuhrman. Dr. Zelman noted the state and local impact of Dr. Fuhrman's work as the Director of CPRE, the Consortium for Policy Research in Education. In her lecture, Dr. Fuhrman summarized the morning presentations and set the stage for the discussions to follow by combining the themes presented by the previous speakers with research findings. Her remarks were well received and thought provoking as she presented her main ideas in alphabetical order. Dr. Fuhrman challenged those present to integrate research findings into policy decision-making in order to close the achievement gaps in Ohio.

Summary of Presentation

Curriculum

Dr. Fuhrman began by noting that curriculum, which she defined as student and teacher interaction over specific content, did not receive enough attention in the morning sessions. When we write policy, we need to be concerned with who writes the curriculum. The standards-based reforms are often too vague, leaving teachers to ask, "What is the actual curriculum?" and to rely on proficiency tests as the default. While most of the rest of the world has more agreement on what should be taught, the United States clings to local control and school autonomy.

Data

While disaggregation of data was a central theme of the morning presentations, Dr. Fuhrman stated that this is not enough; that accountability is lacking. Policymakers and parents need to learn how to use the data. Also, the data do not reflect actual classroom practices, so if we have only achievement data, we don't know what is actually happening in the class. We need to collect better data on practices, including qualitative data.

Effect Sizes

We need to be realistic about effect sizes. There is a debate between those who look for gains in achievement among disadvantaged groups and those who counter that it is the achievement status level that matters. A successful intervention may show gains in achievement, but not change the achievement status. This difference was not widely discussed, but Dr. Fuhrman believes that a policy brief should be prepared that includes realistic expectations for how much we need to influence the gain to change the status. While accountability rewards gains because that is doable, we need to know how much gain is needed to close the gaps.

Evidence and Research

There is a great need for scientifically rigorous research that evaluates effects on learning. Because teachers think that interventions are based on research, they are not asking about effect. Dr. Fuhrman cited a survey that asked teachers where they got their information about what program to use. The results showed that teachers trust their own eyes most, followed by use of information from other teachers. Experience within the district was third, and the least often used source of information is published research because the teachers believe journal articles are biased.

Middle and High School

Most of the improvement, especially in math, has been at the elementary level. While this could be due to the time spent on the subject as well as social and cultural differences, the behindedness of kids by high school must be addressed. Because reading is a precursor to learning, secondary literacy programs are needed.

According to Dr. Fuhrman, the romantic notion of a small, personal high school may not be best for teacher learning. Small schools destroy departments, which are the fundamental structures for teacher learning. Without a department, there is no coherent curriculum and no learning from each other. It is assumed that high school teachers have other channels for learning, but that is often not the case.

Within the current standards movement, the most important outcome is that high school students graduate in order to have more life chances. Increasing achievement requirements will not increase dropouts, according to CPRE studies, but some reports contradict that finding. In Texas, the dropout rate climbed when the course requirements were increased in the 1980s, but not with the accountability standards of the 1990s. However, increased accountability has not led to better graduation rates.

Stakes or Consequences

The major problem with the accountability measures is that the stakes fall on the students, not the adults. The rhetoric around accountability for schools and teachers is unenforceable by the states, which do not have the capacity to carry out accountability programs. There are no resources to figure out what is happening or provide intervention.

It is heartening to note that accountability is being refined, with more stakes spread across players. Also, rather than responding to a one-year change, which could be a random error, people are

beginning to average results over a couple of years.

Teacher Quality

As was noted in the morning sessions, increasing teacher quality is essential to narrowing the achievement gaps. While the teacher shortage is often blamed for lower quality, one study found that the problems are more often due to failure to hire and retain teachers and assign appropriate classes. There are large numbers of teachers who have been assigned to teach outside of their subject area to avoid hiring another teacher.

Professional development for teachers is one area where we are coming to consensus. Sustained, multi-format professional development with coaching and classroom visits improves practice, especially when it is directly related to what the students are learning. Teacher beliefs and expectations are vital to student learning. In-class professional development and mentoring provide teachers more comfort with the content and more comfort with the students' abilities.

This morning, serious interventions at many schools were noted. Successful intervention requires capacity through the district, state, universities and non-profits. Third parties are needed to help on a larger scale in order for widespread intervention to occur.

Summary of Discussion

At the end of Dr. Fuhrman's presentation, several participants asked her to expand upon her remarks. The following questions from the audience and responses from the speaker have been paraphrased by the author.

Q: Since the gap data remains fairly constant, what about investing more on the front end?

A: There is a lot of evidence that early childhood education does help, although K through 3 could be as powerful as preschool. We do know enough to suggest that preschool does work.

Q: It seems that there is a tension between observations and ideology when it comes to validating interventions such as direct instruction. What suggestion do you have considering the number of forces affecting policy decisions in Ohio?

A: You have to sort through the evidence. For example, the National Board for Professional Teaching Standards in Tennessee concluded that direct instruction is not effective, but they used a sample of only six teachers. Panels of researchers need to review research studies and convey the findings to the public. So much of research is advocacy based; it needs review. Education doesn't suffer from comparison to other fields, such as medicine, which doesn't review so well either.

Q: What do we need to do to give guidance about how long it will take for an intervention to have an impact?

A: Elementary scores are better. We need to look at interim measures so that we know we are on track for improving achievement. We need to ask for patience with a plan and use good markers.

Q: How do we reconcile the fact that students and teachers are under stress?

A: Many schools are in low-achievement

categories and nothing is done. When elementary school teachers were asked, "Whom does the accountability system hold accountable?" most replied "the principal." In an organization, accountability should be diffused. Not enough remedies or sanctions are used. The teachers are stressed, but not as much as the students.

Q: There is a lack of capacity in Ohio, especially at the state level. What ideas do you have to increase capacity?

A: I would put out an RFP and based on who comes to the table, choose the best interveners and ask, "what do we need to expand capacity?" Three years is not long enough for an intervention to work. We should talk about a different pricing structure beyond three years.

Q: We know that evidence is important but we need multiple measures as well. Assessment must include more than a state test. These results must be carefully interpreted and combined with classroom assessments as well. Also, we cannot change the measures in the middle. What do you think about multiple measures?

A: Some think that multiple opportunities means multiple opportunities to take the state test. The intent is to use multiple ways to assess knowledge in the same domain. Some states allow GPA to be a factor.

Q: How can controversial programs such as No Child Left Behind and accountability be reconciled with meaningful reforms?

A: *No Child Left Behind* constrains the states and forces them to use a lower definition of proficient or define subgroup measures so that the minimum is so large that there are not enough present in the group. There may be a political backlash. Will the states keep high standards and the feds back down? This is the tradition since the feds don't have the capacity to enforce the legislation.

Q: Looking at the deviation to the mean, what happens when it gets to be 60 to 70 percent in the 7th or 8th year?

A: I wish we had that problem. The cynic in me says it won't last that long without an enormous investment in capacity and research.

Due to the time schedule and not for a lack of interest, the session ended so that the participants could reconvene for the afternoon presentations and discussions. In her remarks and in the discussion that followed, Dr. Fuhrman identified some of the issues that need to be addressed to integrate research and practice in order to close the existing achievement gaps and move the dialogue forward.

Chapter Six
LOCAL AND DISTRICT LEVEL INITIATIVES

Presenters	***Ronald Ross***
	James Paces
	Bernice Stokes
Facilitator	***Joseph Johnson***
Respondent	***George Tombaugh***
Recorder	***Iris DeLoach Johnson***

Recorder's Summary
Iris DeLoach Johnson
Teacher Education, Miami University

Summary of Presentations

Dr. Ronald Ross

Contextual Background

Dr. Ronald Ross began working for the National Urban League in August, 2002 as its first Dr. Israel Tribble, Jr. Senior Fellow for Urban Education Reform. He is well known for the impressive reform he spearheaded as superintendent of the Mt. Vernon City Schools (New York) while superintendent of schools there from 1998 to 2002.

When Dr. Ronald Ross became Superintendent of Mt. Vernon City Schools, the city was in racial turmoil. Of the 94 separate ethnic groups, the two major groups were the African Americans and Italian Americans. Of the nine school board members, five were African Americans. Dr. Ross came to Mt. Vernon City Schools after the 27-year tenure of the former school superintendent, William C. Pratella. Situated literally across the street from the Bronx, Mt. Vernon, New York is one of the ten richest communities in America. The northern part of Mt. Vernon hosts the upper-class European American community that is virtually separated from the mostly African American poor by the north-south run of the Metro. The socio-economic devastation on the South side is somewhat characteristic of the living conditions of the poor in Haiti or South Africa. The racial makeup of the Mt. Vernon City Schools was 87 percent African American with an 84 percent European American staff (of which 76 percent were Italian Americans). "Italians ran the city!" Dr. Ross exclaimed. It is against this backdrop that Dr. Ross broached the conditions of an achievement gap. As he indicated, "Race was a major issue!"

The Journey: Assess the Situation and Make the Necessary Changes

During the first year Dr. Ross merely tried to **assess the situation**. The State of New York had just adopted higher academic standards for K-12 schooling. Students were now being tested at Grades 4 and 8 on new math and reading standards.

During this preliminary assessment, Dr. Ross discovered that 33 percent of the students were at or above the reading level (i.e., classified as *proficient* in reading). However, in one school with an 100 percent African American student body instructed by a 98 percent European American staff, the reading scores were the lowest in Westchester County. Clearly there were significant achievement gaps, and the African American students were clearly—as a group—at the bottom.

The assessment of the situation also included non-student issues such as teacher pay, teacher professional development, physical facilities, and community-related issues. At the end of the first year, Dr. Ross noted that, of the 37 school districts in the county, Mt. Vernon's pay was 36th—almost at the bottom! He negotiated a five-year contract with a 20 percent **raise for the teachers**. As the city voted on the school budget, he was turned down the first year, and again in the second year. Finding the physical conditions of some of the schools at various levels of dilapidation, Dr. Ross asked for an $100-million bond issue to **repair the buildings**. Dr. Ross also found other indicators of concern in the community. Mt. Vernon was a leader in AIDS cases, teen pregnancy, the number of African Americans under age 25 that were incarcerated, and the number of homeless children in the country. Furthermore, Mt. Vernon was ranked as 750th in achievement—at the bottom—in the state. Faced with this enormity of issues, Dr. Ross indicated it was important to **"consider those issues that we can control, and those we can not."**

Dr. Ross literally **took his concerns to the streets!** "I spoke week in and week out to every church, community group; anyone who would listen." The next year the budget passed by over 15 percent and so did the $100-million bond issue to improve the schools. Where should the money go to wage the war more effectively to narrow the achievement gap? Dr. Ross proclaimed, "Teachers, teachers, teachers make the difference!" The $57K allotted for **professional development** during the first year was increased to $3.5 million in the second year.

With a desire to run a *public* school system, Dr. Ross also took his concerns to the faculty and principals of the schools. At Longfellow Elementary School he spoke to the entire faculty and principal and asked, "How do you justify 12 percent [of your students] passing [the state test]?" The faculty responded, "Fifteen years ago we would have had 90 percent of our kids passing…this school has changed!" What were the implications of such a statement? Dr. Ross fired back, with a certainly surprising response, "When I leave here…I would like to take a shower…you are probably the most racist group of people I've ever seen." Following that attention getter, Dr. Ross continued, "Here's how we are going to do this: **We are analyzing the test; disaggregating the data not by race** (because 87 percent are African American students) [but] disaggregating **by teacher and where you were trained."** At the end of the year 270 teachers left. "It normally would have taken a year and half to get rid of them [by

dismissal]; but they left. The teachers' union would not have permitted it."

Dr. Ross posed a question that perhaps all educators and community members should ask of themselves, **"If you say you are really for kids...why don't you do something to make a change?"** The new situation intimidated the **"bad" teachers**. Dr. Ross suggests that others who plan to follow in this pursuit to narrow the achievement gap should **"get a strong legal department to be ready."** In another bold move, Dr. Ross transferred teachers from the upper-class, mostly European American north side to the mostly African American south side. The teachers protested. They went to court. Dr. Ross's response was, "The pay check says what school district, not which school." He **moved around principals**, and **redirected funds** to better address the academic needs of the district.

Jonathan Kozol might say a third of funds should be distributed somewhat equally to high schools, middle schools, and elementary schools. However, Dr. Ross felt he had "three dead patients" so he **directed all of the funds to the elementary school.** "If a child can't read [he/she] can't do anything else!" Dr. Ross exclaimed. So **funds were directed to reading**.

The Journey: Getting Results

This past year the students of Mt. Vernon City Schools scored 85 percent in reading and 84 percent in mathematics at the national level! At the Longfellow Elementary School 96 percent of the students were achieving at or above the state level!

With these remarkable gains in the Longfellow School, the state commissioner sent in an outside auditor to confirm that there weren't any irregularities in the test administration: "How could they increase from 12 percent to such high rates?" Regional test centers were available so Dr. Ross elected to have his students' scores processed at the center rather than have the district check their own. In the regional center, the exams were checked blindly so assessors wouldn't know which school or district was being tested. In response to concerns for irregularity, Dr. Ross also requested the ethnic background of the assessors. Of 35 teachers assessing in the regional center, only two were African American. There were no findings to support any concerns for testing at the Longfellow School. For two years the Longfellow school has sustained the 90 percent achievement rate. Last year the results for mathematics were up to 84 percent. This year the social studies test was given for the first time; 94 percent achieved. Science comes next year.

Dr. Ross admits that a key factor in producing these results was on-going professional development—all the time—including professional development for the principals. Principals were forced to take the training with the teachers. Dr. Ross indicated there is **"no need to teach teachers how to teach if the principals don't know what they are looking for."** Some ineffective principals felt intimidated and left the system. Another discovery revealed that there were differences in curriculum not only among schools within four blocks of each other, but also within the same hallway in a single building. "Teachers were not teaching the same thing." **Funds were directed to realign the curriculum with the state test**. Noting that "when you align the curriculum in one direction it takes longer," Dr. Ross indicated, "now teachers

were required to realign and rewrite the curriculum to align with the test that was already designed." He also noted that not just "any publication series of texts can fit your own school district…or school."

In Mt. Vernon City Schools they concentrated on best practices, weekly/monthly meetings, and incorporating reading and writing as the theme—day in and day out. Every child on the first- and fourth-grade level was assigned to a 90-minute block of reading and had to write in a journal. Every child was required to come to school with a statement from parents documenting the number of minutes of reading at night. Referencing an earlier statement made by Dr. Ron Ferguson (in the opening session of this conference), Dr. Ross reiterated: "In Black homes, fewer books are available…even if we don't want to talk about it…we have to deal with it."

Dr. Ross closed his report about reform in the elementary schools with several profound statements:

> *When children learn to read then they can do the rest!*
>
> *The principal is key to a school.*
>
> *In the end race matters and race doesn't matter.*
>
> *We couldn't fire all the European American teachers, and didn't need to.*
>
> *Those who would teach did, and those who wouldn't may have left.*

Ramifications for the Upper Grades

Lincoln Middle School, the most integrated school in the district, was recently featured in a Sunday *New York Times* (April 7, 2002) article entitled "Using Love, and Chess Lessons, to Defy Theories on Race and Test Scores." Evidence of narrowing the achievement gap is there:

- Ninety-eight percent of the students were reading at the national level.
- There was no statistically significant difference in gender (male/female) or ethnicity (African American/European American).
- There was no statistically significant difference between students with free-and-reduced lunch and those who weren't on free-and-reduced lunch. In fact the former performed 1 percent better than the latter.

Dr. Ross attributed much of these results to "three years of **relentless professional development and a principal, George C. Albano that lives and breathes the school,** and does much to make it work." He further stated that the school, "also had a superintendent (Dr. Ron Ross) who said that teachers will make him believe that they love the children who are in front of them!"

What happened at the high school level? Dr. Ross visited the guidance center designed to support 3,000 high school students. "One poster in the guidance center referred to a four-year university, everything else was for a community college. What are the expectations?"

In the cafeteria and courtyard you could get a contact high from marijuana. At the end of the day you could clear out about 10-12 used condoms from that day. There were metal detectors at every door. In the

second year, Dr. Ross brought in the Nation of Islam as security guards. A group of African American parents who were Baptists took him to court, saying he was trying to proselytize the students. However, in the second year things were better. **Expectations were higher.** There were also many other improvements that addressed expectations and situations involving the "person in front of you."

Closing

Dr. Ross's closing statements regarding the narrowing of the achievement gap:

> *There isn't a gap in the children, but in the teachers who are in front of them. We need teachers who believe that, and will do what it takes to make those children learn.*

Dr. James Paces and Dr. Bernice M. Stokes

Contextual Background

Dr. James Paces, Executive Director of Curriculum for the Shaker Heights City School District, was formerly the principal of Woodbury Junior High School in Shaker Heights.

Dr. Bernice M. Stokes, Executive Director of Elementary Education for Shaker Heights City School District, was formerly a classroom teacher and administrator in Cleveland Public Schools.

Shaker Heights, a small community in the Greater Cleveland, Ohio area, has very affluent homes, but middle-class dwellings as well. The population is 52 percent African American, 40 percent European American, 4 percent multiracial, and other ethnicities in smaller percentages. The community also has considerable diversity in religion. The high school boasts a 91.5 percent graduation rate.

Promising Practices for Maximizing Student Achievement in the Shaker Heights City School District

Dr. Paces shared a "snapshot" of Shaker Heights accompanied by photographs of the Shaker Heights community and reminded the audience that what they are doing works for them. Others must determine what components of Shaker Heights' success can be implemented successfully in their districts. In Shaker, everyone in the district understood the mission and has bought into it. The superintendent indicated that the district would be relentless in closing the achievement gap by improving student achievement through:

- Parental involvement
- Professional development
- Student programming
- Community speakers
- Faculty outreach

Parental Involvement

The district implemented parent education sessions and organized partnership networks according to the suggestions of Joyce Epstein of John Hopkins University. [See http://www.handinhand.org/epstein.html.] PTA meetings were scheduled at night to accommodate parents' work schedules. Action teams such as Fathers' Clubs were also organized. Mothers were coming to the PTA meetings more, but now Fathers' Clubs keep fathers busy reading or doing other work with their children while the mothers are attending the meeting. Thus the entire family can be engaged in

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learning.

Parent conferences are arranged on Saturdays (9 a.m. to 2 p.m.) and sometimes involve keynote speakers. Much information is provided for parents in advance of these meetings. The last one had 150 parents in attendance. Parents choose breakout sessions on targeted topics such as study skills, and health issues. High school students are scheduled to share what they think makes a difference for them. Scheduling for these conferences is provided on an annual basis. The final conference for the school year brought in Leon Bisk, a motivational speaker.

Additional provisions or tips for parental involvement include:

- Creating a home study area
- Limiting television viewing
- Monitoring homework completion
- Finding ways to support achievement at home
- Knowing resources available in the schools
- Forming a home/school partnership involving all families in the educational process
- Establishing a voice mail system so parents can call in and get homework assignments

Professional Development

Dr. Ron Ferguson (education researcher at Harvard's Kennedy School) partners with the Shaker Heights school district and has helped it implement his Tripod System (See Chapter 2). Significant amounts of data have been collected. Dr. Ferguson insists that teachers listen to students regarding what encourages and discourages them. Therefore, there are regular student panels appearing before the faculty telling them what encourages them and what they feel works for them.

Promising practices regarding professional development are as follows:

- Professional development sessions are helping teachers elicit better performance from each student.
- Students are providing specific feedback to faculty members.
- Analysis of student feedback is encouraging teachers to be "reflective" about their work.

The staff is sharing results locally and with the National Minority Student Achievement Network.

Extended school time also enables high school and elementary school teachers to work together. Ongoing professional development is provided. A university person comes in during the day to provide professional development as teachers are released to take classes during the day.

Student Programming

Twenty years ago the district started all-day kindergarten with a minimal charge for the afternoons. Closer attention to the data revealed that African American children were going home rather than staying for the afternoon. The lower one-fourth of children coming into kindergarten now receive 30 to 40 minutes of extra support every day. By the middle of the school year many of these students are then moved to the middle performing level.

The district provides more support for before- and after-school activities, realizing that "time on task is important." There are late buses so children can participate in after-school activities. School normally begins at 9:15 a.m., but in one principal's school (with 90 percent success) children arrive at 7:30 a.m. for before-school activity. There is no down time—even during winter vacation.

The district also discovered that mobility was a factor in closing the achievement gap. It was losing two-thirds of African Americans and one-third of European American students annually. Although it had only 40 of the 130 students with whom it started four years ago, 35 of those 40 passed the proficiency tests.

Teachers identified the need to intervene earlier with African American children to get them ready for math. To address this, the district implemented programs starting with African American students completing fourth grade and eventually began working with European American students who were not at the desired level. These efforts increased the number of students from the first cohort of the program who were in the upper-level courses in the high school.

Scholars program. Based upon information gathered in the regular meetings with students, the district implemented a program for outstanding high school seniors to mentor students coming into ninth grade who were a bit behind academically. These outstanding seniors, known as scholars, dress in shirts and ties. They enter classrooms as teachers leave, so they can give ninth graders the low-down on what is required and necessary to succeed academically in high school. In seventh grade there are both female and male math scholars; the district is now implementing the same for fifth grade. Beginning with fifth graders, the focus is on character and understanding the importance of achievement. "They are going to be influenced by something. We (the district) choose to influence them positively." Students are awarded for their successes.

SCORR – Students Cooperating on Race Relations. High school students working with fourth and sixth graders to help minimize polarization that occurs. Guest speakers, including people of color, are brought in to help inspire students as they share their personal stories.

Community Speakers

Successful professionals from the community who may serve as role models are invited to speak to students.

Faculty Outreach

Six teachers at the high school, three at the middle school, and two or three at the intermediate school have completed professional development based upon Uri Treisman's work. The teachers provide support for students as they are advised to take higher level classes.

A team of seven teachers currently supports primarily African American students enrolled in honors and AP classes. Other faculty members travel to students' homes and to the public library to work with students. Teachers also organize students into study groups to reduce the tendency to study in isolation.

Plans for 2002-03

- Continue focus on the five areas discussed above.
- Conduct summer faculty workshops.
- Assign two teacher leaders in every building.
- Provide district coordinators at the elementary and secondary levels.
- Add computer software.
- Extend school day/week/ year.

Summary of Discussion

Dr. Joseph Jackson of the Ohio Department of Education facilitated the discussion. He charged the conference participants to frame questions and dialogue around strategies for attaining these kinds of results in all Ohio schools. The author has paraphrased the discussion that follows.

Campbell: You changed the model. In the past, in terms of mathematics, the amount of time was constant and we varied what was learned. You changed to "let's make the amount of content constant and let the amount of time be variable." What other programs are implemented to assist with that?

Paces: Many African Americans were failing. We put in an algebra lab and extended it to a two-year period. We follow up with geometry and eventually get into pre-calculus.

Evanston, IL is using two periods of algebra in the same year. However, Shaker is using one period in two years and will compare to see what appears to be more effective. Ninety-minute mathematics periods are mandated.

Ross: In Mt. Vernon, algebra was implemented in Grade 6, but had only about two teachers who could even teach it. So some middle school teachers were moved down to elementary school. Physics was moved to Grade 9, so students needed more math. Hence there was an algebra deficit for teachers. [In Mt. Vernon during Dr. Ross's first year only 60 percent of the teachers were certified and/ or had masters degrees in what they were teaching; when he left, there were only nine teachers who were not certified. The district started releasing teachers to help them become certified and competent. Many of the physics teachers were not certified.]

Singham: What's the difference in students—capacity to learn or time to learn? There is no real difference in capacity, so consider time. However, some teachers tried to slow down the curriculum and actually taught less. There is a limit to how much you can do. There is danger to focusing too much on mathematics/science and leaving less time for art and other topics. It is not necessary to learn math linearly….spirally should be considered…we don't have to continually repeat learning we don't think students have. We can "steal time" by using the spiral approach, but this takes a higher level of professional development.

Question (unsure of source): How did you increase the belief that students can actually learn? How did you deal with issues of creating this critical mass of competency rather than failure for expectations?

Ross: We used the term that indicated each school will become *competent*. You must deal with the hand that was dealt to you. In

Mt. Vernon it was race. Sometimes people cried, cursed, left in anger…but conversations had to take place so all of the educators could get on the same page of believing that all children could learn. We had to rewrite curriculum, change practices, get community on board, get teachers on board…..doing so many things. The mission had to be plain: *Children must learn how to read.* The Commissioner said every student had to read 25 books each year. Dr.Ross announced, "That's racist! In Mt. Vernon every child will read 50!" Community leaders offered incentives to children such as bikes and prizes. Many children exceeded the expectations he set forth.

[*Anecdote*:Dr. Ross was as tough on the parents as he was on the teachers: "How dare you to ask these white teachers to care about your children more than you care about them? Why is your child coming to school without the paper signed to document 30 minutes of reading to them?" Call it like it is. Some superintendents said, "*You* can say that to the parents because you are Black." But Dr. Ross replied, "Tell it like it is!"

Dr. Ross confirmed that he had trouble with the school board, but it wasn't just a race issue.]

Paces: Ron Ferguson's work gives us a common language. There are many invitations to people who aren't a part of the process to join us. Leadership is key: holding people accountable and getting everyone who has a leadership role to pull in the same direction.

It is important for the superintendent to drive the reform. However, if we continue to change superintendents how can we make these changes? Why move superintendents like you do socks, yet keep the dead teachers, and many of the comatose principals? How can that help to implement effective change? Shaker has had the same superintendent since 1967—that continuity is incredible!

Furthermore, consider how many school board members are being kept who are also nonproductive. The number one problem is school board micro-managing (i.e., members who try to be the superintendent). The board needs to hire the superintendent, then get out of his/her way to let them run things.

Comfort: I am pleased to hear about initiatives implemented with parents. Has anyone looked at combinations of teacher-quality and parent-involvement issues?

Whether or not new teachers come out of the university prepared or not, when they walk into the classroom there are things they haven't been exposed to. They have another new issue; another new realm. We ask teachers to do things that we do not provide support or training for them to do…hence the need for continuous professional development. Bring the professors into the school district and offer the courses right there so teachers can apply what they've learned and come back to the classroom to report how things went.

Once teachers come together into a building there must be an agreement on who is running things, what the mission is, and the fact that everyone is working toward it. If you talk about a teacher being *good*, look at the data coming out of that classroom and determine whether that's really what you have. Teachers at various levels should share with each other. For example, Shaker high school teachers placed with elementary teachers are

learning from each other. Shaker finds this very effective.

Parents are coming back and reporting the results of how well things work that they've tried to implement. Some leaders of parental involvement have found that they must actually go into the communities to work with parents; go out there and help parents to return the signatures to give permission for their children to participate in various programs.

Ware: What was the content of the relentless professional development you provided? How did you know who needed it?

Ross: We looked at the scores—the data. We broke down the test to determine the content areas for which they needed help, and invited the teachers to learn those things. We reminded teachers that if they wanted to stay with fourth Grade teaching then they were strongly encouraged to stay with the professional development that would help them to be more productive. Mentors were also provided.

There were probably 27 administrative officials. Central office was reorganized to attend to the 27 competencies identified by the state. They were no longer writing observations, or working from desks in the central office, but now going out to the teachers and giving support on the specific competencies allotted to them. They provided assistance with the fear of report or assessment removed from their visits. Teachers then reflected on what was working. Central office staff helped rewrite the curriculum and at the same time helped teachers to become better. The obvious message was: Anyone who stays will work to become the best professional you can be. Central office staff worked with universities and other teacher-training institutions to join them in providing professional development in the schools.

Hakel: I am curious to have more information about the regular student panels.

Paces: First, I'll provide an example of poor operation. To begin with there was a student panel at the elementary school. There were a dozen students on the panel. Guidelines from the district office made it clear that there should have been only five students. The students were talking to the faculty and had been coached on how not to mention names of teachers that they were reporting or discussing. The students began calling off teachers' names, so there were some problems. However, by the end of the school year faculty and students managed to reconcile.

Many parents get involved in various aspects of the student-panel process. Shaker does not have parent panels, though. After a three-year initiative when the high school students put an article in the school paper, the Project Achieve (federally funded program) got much parental involvement. The Kindergarten Resource Program (KRP) began as a result of that. Students who have gone through the panel training system participate in evening sessions to get feedback from parents.

Ross: A Superintendent's Round Table, comprised of one student selected from each school, was implemented in Mt. Vernon. However, during the first year the schools often sent the straight A students, especially. After that, I asked the schools to send two students: the one student they couldn't stand (i.e., the "worst" student as

the teachers might perceive it) and also that student they preferred to send. Those students provided much insight.

[Anecdote: Some Mt. Vernon principals would come over at lunch time and pick up their students from the Superintendent's Round Table meetings. Since no school officials or other adults could come into those meetings many were curious. One principal offered a student $25 to tell her what was going on in the meetings. However, Dr. Ross had given the students his business card and told them to call him if they needed help. The student reported the incident to him and there was a mild confrontation. Moral of the story: Speak to the students…speak to the custodians.]

Question (unsure of source): Can we provide a way for board members to engage in some self-assessment? How can we avoid maintaining the status quo?

Comment (unsure of source): Punishing a child for nonattendance by suspending him/her is not productive in urban districts. Look for systemic and long-term effects; consider other issues. For example, what if we want students to stay after school, but then that only increases the likelihood that the students will walk through dangerous neighborhoods after dark?

Question (unsure of source): How do you deal with parents who are concerned about their children being pulled down academically by dealing with students' special needs?

Comment (unsure of source): The truth is Shaker Heights is tracked.

Paces: Shaker had to deal with the issue of gifted-and-talented in the elementary schools. We tried to provide "for all" classes, but then parents wanted their children to be identified and get something special, so we changed back. There is a challenge in trying not to lower things (academically for some students), yet still move things upward. For example, in fifth grade students can get into advanced language arts and advanced mathematics classes. As students are placed into these programs, study circles are provided along with other support agendas so students can stay in the upper levels, without pulling other students down.

Parents can opt into an advanced track for their children, so the district had to make sure that minority parents were aware enough to request the option, but then also aware enough to know what would be required to support involvement.

Paces: Yes, we are a tracked school system. Ferguson's research shows that there are skill differences among groups of children. A one-size-fits-all education is not advocated. Polarization was beginning to surface as the various academic levels were being denied. Ferguson felt it was a myth to claim that children were being pulled down. He doesn't think tracking is the answer; however he indicated that if it works for Shaker Heights—fine.

Ross: The state test is not the be-all and end-all. Scarsdale took a while to catch up with Mt.Vernon. Scarsdale wanted to abolish the test. I would go for that idea too, if it weren't for the fact that without the test this might be seen as an indicator of lack of faith in the poor African American students' not being able to really pass the test anyway. The most productive or effective teacher is the one who makes

the students feel valued. Think of the third part of Ron Ferguson's work on "relationships."

Conclusion

Mr. George Tombaugh, respondent for this sesson and superintendent of Westerville City Schools, the ninth largest school district in Ohio, designed the following statements to summarize and respond to key points during the Local and District Level Initiatives Session.

- Focus on those things we can control. Issues students bring to schools from outside may not be controlled.
- Analyze data both for student achievement and teacher performance.
- Disaggregate data based upon types of schools.
- Find models we can replicate. (Each feature of the model should be analyzed.)
- Consider teachers' unions – the Ohio Education Association; money put into state elections is quite high.
- Focus on professional development because it is critical. Susan Zelman's summer institutes for reading represent a model to consider.
- Focus on literacy and reading across Ohio.
- Realign curriculum: At local levels let teachers take the proficiency tests themselves and dissect the tests to reflect on the effectiveness of their instruction.
- Consider the amount of time devoted to reading to support literacy. There are needs for providing programs to support literacy for kindergarten children.
- Determine what should be done within the kindergarten school year to work on school readiness.
- Address the idea that the gap are something we've created— something that doesn't really exist.
- Emulate Shaker Heights' key strategies: professional development, student programs, faculty outreach, community involvement, and early intervention.
- Implement student panels. [In Mr. Tombaugh's district, a video was shown to high school students about respect.]
- Increase time on task: Find ways to extend student learning using outside resources such as Ohio Reads tutors.
- Form a community of learners: Learning is not only for teachers, but also for principals.
- Share perspectives: Not everyone supports closing the achievement gap. [Mr. Tombaugh moved a principal from a high-performing building to a low-performing building and parents protested.] There are parents who are concerned that as we close the achievement gap their children will lose out…more competition is seen as fewer opportunities for their children.

- Focus on choice to bring in more minority students.
- Focus on the science of improvement. [Four fourth-grade teachers each took two units themselves and decided to rotate the students so they could each teach those units.]

Chapter Seven
CROSS-CUTTING ISSUES

Presenter	***Kathryn Scantlebury***
Facilitator	***Jonathan Tafel***
Respondent	***Wendy Webb***
Recorder	***Carla Johnson***

Recorder's Summary

Carla Johnson
Northern Kentucky University

Introduction

The topic of the fourth session at the Narrowing the Achievement Gaps Conference focused on issues that cut across local, state and national arenas. Dr. Kathryn Scantlebury, Associate Professor in the Department of Chemistry and Biochemistry, University of Delaware, presented issues for discussion including teacher preparation, teaching practice, development of curriculum frameworks, educational policy, leadership issues and systemic reform.

Summary of Presentation

Dr. Scantlebury began the session with an overview of science and mathematics reform conducted by Ohio's Systemic Initiative, *Discovery. Discovery* has been involved in systemic reform efforts for over a decade. The model for systemic reform described by Dr. Scantlebury has three main components. The first component is to establish curriculum frameworks. The second is to align the frameworks with educational policies. The third component is to make resources available to schools implementing the curriculum framework. *Discovery's* systemic reform has focused on providing extensive, standards-based professional development for teachers in Ohio. The evaluation of *Discovery* provided data on changes in practices at the state level as well as the school and teacher level.

Discovery's professional development institutes were created to help teachers in Ohio address a lack of content knowledge and use of inquiry in mathematics and science instruction. Teachers from schools across the state attended these institutes. Dr. Scantlebury discussed the three-tiered research design used to evaluate the progress of the reform. Findings indicated that individual science teachers do make a difference. The achievement gap between African American and European American middle school students was 15 percent smaller in classes taught by *Discovery* teachers than in classes taught by matched non-*Discovery* teachers. In addition, findings indicated the number of *Discovery* teachers present in a school also matters. The passing rates on Ohio Proficiency Tests in mathematics and science increased as

the percentage of *Discovery* teachers in a school increased. Based upon these findings, *Discovery* began the Model Schools Program in 2000, which focused on providing professional development for teams of teachers and administrators from schools that would then serve as model sites for the implementation of standards-based practices.

The second reform that Dr. Scantlebury presented was based upon work completed in Philadelphia schools in conjunction with Dr. Kenneth Tobin at the University of Pennsylvania. This model of reform included working with individual teachers who are enrolled in a special master's degree program for high school chemistry teachers. It focused on teacher-level change. Dr. Scantlebury explained that many science teachers in urban areas are teaching out of their area of certification. The program emphasizes chemistry content and pedagogy in the context of urban schools. Dr. Scantlebury described the real-world social and cultural issues that are part of everyday work with urban minority students. One key finding of the study is that teachers must earn and show respect for students. Dr. Scantlebury also emphasized the need to connect teaching to the real world for students. The Philadelphia study found that students often bring the street code into the classroom and, therefore, teachers must find a way to breach their unconscious enactment of this code in the classroom. Further, Dr. Scantlebury explained the study had found that doing science labs was a good way to make connections with urban students.

Dr. Scantlebury argued that the past decade of reform has demonstrated that sustained, high-quality professional development, focused on content and taught using inquiry, changes teaching practices. These changes in teaching practice have led to increased student learning in science and mathematics, especially for girls and minorities. Reform efforts have also identified that a critical mass of reform-oriented teachers in a school improves Ohio Proficiency passing rates in mathematics and science. Dr. Scantlebury emphasized the need for state and regional support networks in order for reform efforts to succeed and be sustained.

Summary of Discussion

Dr. Jonathan Tafel, Ohio Board of Regents and facilitator for this session, opened the discussion with a question for Dr. Scantlebury asking for common learning suggestions from reform efforts in Philadelphia and Ohio. Dr. Scantlebury responded by explaining that professional development experiences for teachers need to focus on content knowledge and be conducted in the context of the classroom in which teachers would actually experience and practice the new teaching practices. Dr. Scantlebury added that teachers should conduct research in their own classrooms on their own teaching in order to learn more about what works. This would provide teachers with more information on what works with students and they would be able to have more input and support for policy issues concerning what needs to be done for students.

Dr. Jane Butler Kahle, Miami University and Principal Investigator of *Discovery*, responded to a question asking for suggestions for statewide policy, the standards and how to address professional development needs at this level. She indicated that *Discovery* has reached 8,000 to 12,000 teachers through two types of professional development efforts: short-

term two-week institutes and longer six-week summer workshops. Dr. Kahle indicated that short institutes focused on grade-appropriate curriculum are the best way to scale up quickly to meet the needs of the state.

Dr. Kahle addressed another question about whether *Discovery* has units of instruction tied to the national standards. She explained that *Discovery* takes either existing or new curricula and maps them against national standards. Dr. Kahle provided examples of curricula that had been used by *Discovery*, such as Physics by Inquiry, Foundational Approach to Science Teaching (FAST) programs and the Connected Mathematics Project (CMP).

Thomas Laskey asked if programs like *Discovery* with research and data tied to them had been replicated in areas other than Ohio. Dr. Gil Valdez, Deputy Director NCREL, responded by explaining that Indian reservations in Minnesota and Project Real in Chicago used FAST, CORE Plus and Active Physics and had found success with them. Dr. Valdez added that it is dangerous to say there is any one solution for every context, emphasizing that what works in one area may not in another. He also discussed data published that show highly teacher-centered models are effective for African American students. He explained that he has not seen data published showing that inquiry is effective with African American students. Dr. Kahle interjected that comparison problems with this data may exist because populations of students within schools sometimes are comprised of all African American students. She explained that she looks for minority and gender effect and that Pat Campbell has other data like these. Dr. Patricia Campbell, President of Campbell-Kibler Associates, Inc., conferred and offered to make a list compiling data published in NSF SSI studies, supporting standards-based teaching and inquiry. Dr. Campbell mentioned other data available in the form of peer-reviewed results from El Paso and Puerto Rico, that demonstrate the positive impact of standards-based teaching practices on minority students.

Dr. Tafel followed up with a question regarding how to develop the capacity to make needed changes at the state level. He expressed concern relating to the weak infrastructure of mathematics educators in the state of Ohio and asked how to meet the state needs. Dr. Kahle responded that the issue of well-qualified mathematics and science educators was the driving force behind the NSF-funded Centers for Teaching and Learning. These centers led to an increase in standardized testing scores in the 1970s and 1980s, but a decline in scores in the 1990s when funding was dropped. She explained that one of the most serious ramifications of this funding shortage was the lack of support for graduate mathematics and science students. Dr. Kahle argued that she does not think there is a quick fix. She emphasized the need to get Arts and Sciences faculty at universities more involved in teaching the teachers of mathematics and science.

Sylvester Small, Superintendent of Akron City Schools, asked how technology could be used to deal with the capacity issue. Dr. Robert Tinker, President of The Concord Consortium, responded indicating that online professional development does work, is cost-effective, time-effective and can be participatory. He also pointed out that focus may be an issue in this case; having a small group of teachers and

meeting their needs should be most important.

Dr. Valdez discussed the importance of collaboration with other teachers as a source of ongoing support for those who have participated in professional development. He argued that without follow-up, even the best professional development efforts die out after two to three years. Collaboration should be conducted at the K-12 level as well as between K-12 and higher education institutions. Dr. Scantlebury, Dr. Valdez, and Dr. Mano Singham, Associate Director UCITE, discussed issues of respect and turf in higher education. In many cases, according to Dr. Singham, the Arts and Sciences faculty don't respect the Teacher Education faculty. He also added that the Arts and Sciences faculty don't know how to teach content very well and this is part of the problem.

Conclusion

Wendy Webb, Assistant Superintendent of Youngstown City Schools and respondent of this session, summarized the discussion in this session. She made some very clear points about having to "know and understand the population you serve." Resources need to be provided to schools and districts with flexibility in spending based on local need, according to Webb. She responded also to the issue of science teachers teaching out of area, emphasizing that this is sometimes a district funding issue. The need for educators at all levels to share ideas and act as professionals was reiterated. Collaboration of K-12 educators and university faculty should be explored in order to prepare teachers better and provide ongoing support while they are in the classroom.

Presenter's Summary: Successful Strategies for Closing the Achievement Gap in Urban Schools

Kathryn Scantlebury, PhD
University of Delaware

Jane Butler Kahle, PhD
Miami University

Urban school districts are settings where there are major concerns regarding equity and improving student achievement. Poverty, together with social and cultural factors associated with social class, ethnicity, students' English language proficiency, unsatisfactory living conditions, and resource-poor schools are key issues that contribute to the challenges of teaching science in urban areas. Two major efforts in addressing these issues, one in Ohio (Kahle & Wilson, NSF, OSR #925000; Kahle, NSF, REC #9602137) and the other in Philadelphia (Tobin, NSF, REC # 0107022, Dai, ESIE #9911825) provide examples of successful strategies for educating urban students. The projects have different levels of scale and characteristics; however, both provide evidence of practices that can be implemented throughout an education system for improving students' achievement. Both projects engaged teachers in extensive professional development programs that intertwined science content knowledge and introduced that knowledge through modeling standards-based edagogical techniques. In Ohio, *Discovery* focused on improving the content and pedagogical knowledge of middle school science and mathematics teachers through six-week summer courses that had monthly meetings throughout the academic year. The University of Pennsylvania's Masters of Chemistry Education (MCE) program targeted high school chemistry teachers with minimal chemistry background. Teachers enrolled in MCE complete ten courses, eight in chemistry and two in chemistry education, during three summers and the two intervening academic years.

The planned evaluation for both projects included extensive research in education settings. The research was conducted at the macro and meso levels in order to document the structures that enhance or inhibit improved student achievement. *Discovery* used a three-tier design model that used qualitative and quantitative methods to describe the impact of reform within Ohio. At the first level, principals, teachers, students, and parents completed questionnaires focused on teaching practices. Students also completed a science content test. From the data collected from these sources, *Discovery* leaders selected schools and teachers for the second-level of the study. In the second level, researchers visited schools to observe science classes and to interview principals, teachers, and students. These two- to three-day visits provided *Discovery* a snapshot of the issues that helped educators implement and sustain reform in science education. The final stage of the *Discovery* research agenda was to complete extensive case studies in several urban middle schools. Results of those studies highlight the need for alignment of class, school, district, and state curriculum and assessment policies. Investigation of students' science achievement and attitudes as well as teaching practices found a positive correlation between science achievement of male African American students in urban middle schools, the use of National Science Education Standards (NRC, 1996) as a basis for teaching, and a supportive home environment. In contrast, the

home environment and peer support had a positive effect for African American girls suggesting that high-achieving African American girls are more likely to seek support from their peers, but high-achieving African American males are not (Kahle, Meece, & Scantlebury, 2000). A supportive and stable school administrative infrastructure is critical in promoting all stakeholders to implement strategies that will begin to minimize achievement gaps.

In contrast to *Discovery's* broad overview of science and mathematics education reform and data analysis at the macro and meso levels, the research in Philadelphia focused on science education at the meso (classroom) and micro levels. Teachers and students in the Philadelphia project were involved as researchers, co-participating in discussions about teaching and learning in urban schools. Typically these discussions, or co-generative dialogues, occurred among several students, the teacher, and the university researchers. During co-generative dialogues students and teachers discuss the successful and troublesome aspects of a specific science lesson that the group has just experienced. This forum decreases the power and status differential between teachers and students, allowing all participants to voice concerns or ask questions about the enactment of the science curriculum. For example, from co-generative dalogues, teachers learned that students submitted incomplete tests rather than use all of the assigned time. By handing in tests early, students saw each other as "smart"; the "slow" students needed more time. Although, students had not completed the test and received poor grades, this was less important than being viewed as "smart" by their peers (Olitsky, Loman, & Martin, 2002). Teachers began to understand how students' attempts to gain and maintain respect from peers was an issue that could override the teachers' desire to teach science (Tobin, Elmesky, & Carumbo, 2002).

Lessons were videotaped and participants reviewed the tape during a co-generative dialogue. The videotapes have been a primary research resource for meso and microanalyses and provide the researcher with a "renewable" data source that is rigorous, cumulative, and usable. Using a video in classroom research is important in analyzing classroom dynamics (meso) and micro interactions among students and their peers and students and teachers. These two levels of analysis provide different perspectives on the teaching and learning of science. At the meso level, researchers are able to identify cultural nodes in the science class where students and teachers enacted the culture of science. Microanalysis of those different nodes provides evidence of how students learn science within the class.

These two projects illustrate the importance of conducting research and evaluation at the macro, meso, and micro education levels to document closings of the achievement gaps in science and mathematics. Studies that employ a multi-level, reiterative, interpretive design with multiple data from quantitative and qualitative sources minimize researcher bias and increase reliability and validity (Erickson, 1998). Further, developing deeper understandings of the successful teaching practices in urban schools and the resources that students bring to class will decrease the existing achievement gaps in science and mathematics education.

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Chapter Eight
NEXT STEPS

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Introduction

The last morning of the conference was designed to elicit suggestions for policies and actions necessary to begin closing achievement gaps in Ohio. The morning began with a gathering of all conference participants from Ohio, including session facilitators, recorders, and respondents as well as attendees from state agencies. In addition, several presenters remained to participate. The respondents from each of the previous day's sessions presented summaries of key points to the group.

Participants were then divided into small groups to develop recommendations for policy. Each small group focused its discussion on one of the four conference themes (i.e., *Framing the Discussion, State Level Initiatives, Local and District Level Initiatives, and Cross-Cutting Issues*). The closing session of the conference included a report from each of the four discussion groups as well as concluding remarks from Dr. Jon Taffel, Dr. Pamela Young, and Dr. Larry Fruth.

This chapter summarizes the suggestions, recommendations, and, in some cases, the lingering questions generated from discussion around each of the four conference themes. The chapter is organized by session theme and summaries are presented as a list of recommendations that were gleaned from respondent summaries and closing session reports. In addition, one discussion group, the *Framing the Discussion* group, provided a formal, follow-up summary of its recommendations. The *Framing the Discussion* summary, contributed by facilitator, Steve Meiring, is included in this chapter.

Small Group Summaries, Recommendations, and Questions

Framing the Discussion

1. Keep the words of the "kids" ever present before the planners in the district.
    - How will districts collect data from the students about what does and does not work?
2. Classroom practices
    - How will we measure and institutionalize strategies which are getting results?

3. Pre-service Education
   - •Have education faculty teaching in the content areas.
   - •Is there a disconnect between Praxis and the skills teachers need to teach the new K-12 standards?
4. Professional Development
   - •Establish content-based study groups.
   - •Implement and sustain "Best Practice."
5. Public Policy
   - •Revisit current policies that are barriers to closing achievement gaps.
   - •Review policies related to testing ESL students and children with disabilities.
6. Relationships
   - •Graduate level: Provide courses toward administrative certification to help administrators gain skills on how to create a sense of family at the school house.
   - •State level: Sponsor leadership academies for administrators designed to demonstrate how to develop relationships with staff and provide support and answers on closing achievement gaps.
   - •Local/district level: Provide focused opportunities for principals to talk about achievement gaps—what is working and what needs to change.
7. Teachers Tenure
   - •Have we created a system to protect incompetent teachers?
   - •Focus on the things we can change.

State Level Initiatives

1. Establish the achievement gap as a factor within the accountability system (i.e., in North Carolina <u>all</u> subgroups within the school must show growth).
2. Develop State School Board goals to address the achievement gap, learning from North Carolina.
3. Establish an achievement gap section (per NC) at the Ohio Department of Education using the <u>assistance team</u> model (student engagement strategies) to help build capacity, conduct surveys, help community (via training) develop strategies, and conduct research (identify what activities schools are involved in).
4. Develop research council relationship.
5. Get governor's involvement/ support.
6. Formulate coherent measurement system in order to make data usable by practitioners in classrooms.
7. Develop an infrastructure that is aligned, not siloed (stacked), to make technology address the state's measurement needs in a systemic way.
8. Assess the usefulness of data rather than just adhering to/ complying with requirements.

9. Align curricula for pre-service teachers with standards at institutions of higher education.
10. Provide quality professional development with follow-up and technology (one tool) for in-service practitioners— accessible by all. Communications/public relations with in-service educators is vital.
11. Focus on high quality professional development that we know works and is focused on standards and student achievement.
12. Provide content and implementation experts (teacher instructional specialists), one per building.
13. Make higher education accountable for equipping students with skills to teach required elements within the standards and use technology effectively in the classroom.

    •Caution: There is a technology "lag"; therefore, do not depend **too** heavily on technology as the delivery system.
14. Establish a statewide P-16 infrastructure in order for opportunities/networks/ collaborations to be *communicated* and replicated rather than duplicated.
15. Communicate the achievements along the way; give where we are and how we got there.
16. Decide what needs to be in state law. Draw on lessons from NC. Efforts to close gaps in NC began in the general assembly as a commission that issued reports (i.e., disaggregation of who was taking what classes and special education issues). Then, the State Board of Education was directed to establish a pilot that "incentivized" (individual teacher) performance. Incentives were for improvement over all and within subgroups.
17. Involve all stakeholders– government, legislators, state board of education, and higher education (including community colleges) and ensure good communication flow.
18. Focus on individual student issues in funding for students with disabilities (appropriate accommodations) and students of color and low income (disproportionate identification and related evaluation).
19. Develop a funding strategy (resulting from *Blue Ribbon Committe*).
20. Define responsibilities regarding distribution.
21. Create short (near) and long term plans with systemic implications.
22. Create policy framework with immediate/strategic significance.
23. Get K-12 and higher education to operate as a coherent system.
24. Meet requirements of the federal legislature.
25. Ensure that special interests requisitions come past the state board of education.
26. Share *Proceedings* from this conference with the governor's commission on teacher success.

Local And District Level Initiatives

1. Develop systems to teach leaders, teachers, community members, students, and stakeholders the frameworks (what works) within the context of the continuous improvement plan.
2. Focus on going beyond compliance in the development of continuous improvement plans (CIPs).
3. Form networks of schools/ community colleges/universities to share solutions and provide support. Use the Ohio Resource Center as a hub.
4. Develop teacher/student networks that frame Academic Year Plan (AYP) requirements in a way that creates a sense of urgency for improving instruction.
5. Ratchet up the Local Professional Development Center (LPDC) mechanism to provide intensive professional development, tied to learning needs of students, to narrow gaps. All parts of the state's professional development system must focus on narrowing gaps.
6. Identify indicators of progress.
7. Explore how career-tech programs can be a tool for improving academic achievement and closing gaps (use data/evidence).
8. Regional Professional Development Centers' (RPDC) networks should publish/share promising practices within content areas. Universities should publish results of studies investigating promising practices.
9. CIPs should include strategies for closing gaps.
10. Collect data that extend beyond test score data (e.g., GPA, IEP data, course-taking data).
11. Ask districts to answer the question, "How will we know that we're making good progress throughout the school year?"
12. Create mechanisms at the district level to sustain a sense of urgency for closing achievement gaps.

Cross-Cutting Issues

1. Develop university partnerships.
   - •Foster collaboration between teacher education and a Arts and Science faculty.
   - •Build professional development requirements into RFP's.
   - •Scale up/replicate model school in-service/pre-service relationships facilitated by universities.
2. Disseminate effective teaching practices.
3. Provide clinical-based experience for pre-service teachers.
4. Provide professional development in-service that is (standards-based, inquiry and data driven) also for guidance counselors. Professional development should:
   - •Be content and grade level specific.
   - •Cover content in depth and be sustained over time.
   - •Be tied to re-certification.
   - •Include establishing virtual communities for follow-up and support.

- Be coordinated by RPDCs.

5. Provide training for those conducting professional development (SECO, OCTM, LPDC).
6. Provide a mentor/advocate for each child.
7. Use "gaps" as our motivation to increase opportunities and success for all.
8. Create a culture of success in math and science. Give rewards to students/families for passing proficiency tests ("What's in it for me?").
9. Supply recruitment and retention incentives for teachers.
10. Use technology to enhance quality and interest in mathematics and science.

Facilitator's Summary
Framing the Discussion

Steve Meiring
Ohio Resource Center for Mathematics, Science, and Reading

General Comments

Our group took the position that in lieu of trying to write specific recommendations, we would attempt to define the following framework areas within which recommendations might be made for Framing the Approach. We further took the philosophical position that "Narrowing the Gap" should occur within the broader context of improving achievement for all students and that, in particular, efforts should not target specific districts for improvement, but rather should concentrate upon improving the infrastructure support for higher achievement for all districts, which might then be of most benefit to those districts in greatest need of improved achievement without labeling them as deficient.

Framework Areas

Definition for Improving Achievement in Mathematics and Science Education P-16 that will garner the necessary political support to make a difference

The definition for improvement should be made carefully so that there are no winners or losers in the efforts; that is, the initiative should ensure that districts have the opportunity to participate and that none are labeled as being particularly deficient. Narrowing the achievement gap can be built into an overall effort in the form of metrics by which improvement will be measured. For example, one metric might specify narrowing achievement gaps across all identifiable subpopulations of students; another metric might specify that all subpopulations of students be equitably represented in mathematics/science careers and upper level coursework; another metric might specify that all subpopulations of students have access to the necessary tools and resources (e.g., availability of technology, laboratories, excellent teachers) to be able to learn mathematics/science to high levels of achievement.

Teacher Quality, Improvement, and Support

The State should build a sufficient infrastructure and resources to assure excellent teachers and teacher educators in sufficient numbers to support the high achievement defined in the preceding framework area. This teaching framework area will encompass recommendations that cover pre□service teacher education, inservice teacher education, and improvements in the culture of learning mathematics and science at P-16 levels (including Arts & Sciences involvement and coursework).

Leadership Capacity and Resources

Strategies for effecting improvements at the local level will require both administrators and supervisors who can work with teachers to implement improvement strategies locally as well as state, regional, and higher education experts who can provide both the training to local leaders and clinical support at the district levels. Recommendations in this area will ensure that sufficient leaders and programs are available to implement improvements at the local levels, particularly for high-need districts.

Empowerment and Resources to Support Local Improvement

We suggest that the initiative take the position that districts will need to develop individualized approaches to improvements that will best meet their circumstances rather than the state developing a generalized improvement template of "one size fits all." Further, we believe that local solutions will be most likely to succeed, endure, and gain the necessary political support when they are supported by an infrastructure that helps to train their leaders and to support their efforts. We also suggest that districts be given the opportunity to petition waivers for certain standards given a sufficient improvement plan rationale and evaluation/reporting plan to measure their success and to report on the effects relative to those waived requirements.

Data Management Systems and Tools to Support Improved Achievement

A very important component of the infrastructure to be developed to support local district improvement will be state and regional data management systems. These systems will support localized decision-making and training of local leaders and teachers in the use of data to make instructional decisions and program improvement decisions. Important areas to target for local support are: program management tools and training; development of research-based lessons, approaches, teaching cultures; department and school improvement models; and "just in time" data analysis.

Awareness, Ownership, and Involvement of Partners to Support Improved Achievement

Recommendations should address the development of public awareness, support, and involvement among all stakeholder groups in improved achievement in mathematics and science. Also, the state should develop mechanisms that inform local leaders and teachers of the resources, materials, and experts available to assist them with their improvement efforts (e.g., making more teachers aware of the Ohio Resource Center for Mathematics, Science, and Reading; publicizing materials available through the Eisenhower National Clearinghouse, national educational laboratories, and professional societies). The array of stakeholder groups enlisted as partners should include, but not be restricted to: informal science educators, Arts & Sciences faculties, businesses, parents, community and professional groups, civic groups, churches, and social welfare organizations.

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